THE JOURNAL of the Oklahoma State Medical Association.

VOL. II. MUSKOGEE, OKLAHOMA, JANUARY, 1910. NO 8.

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Entered at the Postoffice at Muskogee, Oklahoma, as second class mail matter, June, 1909.

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DIFFERENTIATION OF FRACTURES OF THE NECK OF THE FEMUR

BY S. R. CUNNINGHAM, A. M., M. D., OKLAHOMA CITY, OKLAHOMA.

Lecturer on Fractures and Dislocations Epworth Medical College, Member of the Surgical Staff St. Anthony's Hospital and Oklahoma City Dispensary.

Read Before the Seventeenth Annual Meeting of the Oklahoma State Medical Association, May, 1909.

To anticipate and to some extent disarm criticism, let me state now that there is little, if anything, original in this brief paper. I am addressing men younger and older than myself; men poorer and richer in clinical experience.

To the first class let me make this statement of facts: I left college with my ideas, as probably yours were, in hopeless confusion as to the pathology of fractures of the femoral neck. My confusion came, as probably yours does, from a conflict of opinion, and hopeless disagreement between teacher and teacher, and between teacher and text book. So that, except that some fractures were within the capsule, and some were without, and that in the latter cases, bony union resulted, and in the former not, there did not stand out clearly in my mind *one single fact* or *symptom* upon which I could base even an *approximately* accurate differentiation between these two kinds of injury. Under these circumstances, I was forced, as you have been, or will be, to analyze the symptoms,

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and to ascertain as well as I could their relative value. I have proposed to myself to present these matters to you tonight, trusting that the symptoms on which I have relied for the last several years may prove as valuable to you. To men of greater age and wider knowledge, I offer my clinical experience, that they may compare it with their own, expecting criticism, correction or corroboration, as may be deserved at their hands.

Concerning this differentiation several questions arise, as first, is it worth while to make it at all? Many good men say not, alleging that the treatment is much the same in every fracture of the neck, and that it is unusual to see a case in which a positive prognosis, favorable or otherwise, can safely be made. With all due deference to these distinguished men and their supporters, I must beg leave to differ as to both propositions. First, because there is scarcely a single practitioner today who would not make a distinction between the treatment of a fracture clearly intracapsular—unimpacted, and one as clearly extracapsular—impacted. The habit of treating all cases alike has for its corner-stone a doubtful diagnosis. It matters not so much whether the fracture is intra- or extra-capsular, but rather *is it impacted?*

Certainly we do *usually* get bony union in extra-capsular, and *as certainly* we *often* get bony union in intra-capsular fracture.

As to the second proposition, I believe that a positive differentiation, and consequently a positive prognosis, can be made in nineteen cases out of twenty. But aside from tretament, we have a strong inducement to leave untried no chance of accurately locating the seat of injury.

When a patient employs a surgeon, he has a right to expect not only the utmost exercise of that surgeon's skill in diagnosis and treatment, but as well to receive such consolation, and relief from mental suffering, as may come from the confident hope of a favorable termination to his case; and, on the other hand, such warning as to the future disposition of his affairs as may come from a less favorable prognosis. Fractures of the neck of the femur, in the lay mind, as well as in the professional, are divided into two great classes, the *one* leaving as a net result, even though it be after weeks of suffering, a limb shortened, deformed, with lessened motion, but still serviceable, even strong enough to help earn a living for its owner and his family; *the other* leaving a state of affairs little short of practical helplessness.

Here is now a sufferer, probably already stricken in years, suffering from a painful injury, his hold on life none too certain, particularly prone, as most of these cases are, to melancholy and gloomy forebodings, possibly with his ambition not yet satisfied, his family not yet provided for; he may be oppressed with a dread of coming upon ungrateful children or the public for support. These people, and their friends, from the minute we look at the case, *anxiously* and *rightfully* await a word of *comfort.* I hold that the surgeon *who,* confronted by these *conditions,* a favorable prognosis being *possible,* fails to ally his patient's mental anxiety by giving it, but allows a tardy convalescence to decide the patient's future, is fully as blameworthy as he who unskillfully or negligently treats the physical ailment.

Can this differentiation be made in all, or nearly all cases? It all depends, in my judgment, on whether the so-called extracapsular fracture is impacted. If we except the impacted fracture at the base, it is impossible during life, by any *justifiable* examination, to decide what part of the neck is broken, or whether the fracture has occurred within or without the capsule. I have been in the habit of dividing injuries of the neck of the femur into the impacted fracture of the base of the neck, and the impacted fracture of the rest of the neck.

without regard to the capsule—a practical classification, embracing a majority of the cases, and to which the other lesions may be regarded as exceptional.

I assert that probably *all* fractures in which the cervix femoris is detached at its base are impacted, and that the impaction is entirely wanting only in those exceptional cases in which the great trochanter forms part of the upper fragment.

Admitting then, for the sake of argument, that at the moment of occurrence all extra-capsular and mixed fractures are impacted, and most intra-capsular not, we come to the third and last question: How can this differentiation be made?

By settling the question of impaction first of all, for upon the maintenance of this condition depends our security of best future results. All violent manipulation, extreme flexion, hyper-extension, rotation, or standing the patient on his feet, are to be avoided. Surgeons have long since called attention to the fact that the certainly and rapidly fatal cases were those which had been roughly handled.

One watching the *common* diagnostic methods in these cases, advocated by high authority, too,—ceases to wonder that surgeons are skeptical about impaction, as it is often broken up under manipulation before they think of looking for it. As a matter of fact, preternatural mobility and crepitation, *invaluable symptoms* under ordinary circumstances, should be kept in the background, since a search for them is prejudicial and often fatal to impaction.

To make this diagnosis it is not necessary even to lift the limb from the bed, to make any great amount of extension, or more than slightly and gently to rotate the limb.

The behavior and appearance of the great trochanter is the key-note to the situation. This may be examined first, or what is perhaps better, the surgeon's mind may be prepared by the preliminary consideration of several minor circumstances. As first, the patient's age. Although it can scarcely be said that authors agree "as touching any one thing" in this connection, there can be no doubt that the extra-capsular fracture affects younger victims than its great rival, generally under say 65. Intra-capsular fracture rather appears over 60. The period between 60 and 70 is, however, debatable ground, in which neither can be said to have obtained the ascendancy. The direction and character of violence or force is worth considering. As a rule a fall on the trochanter will produce an impacted fracture of the base of the neck, and the force is usually great. On the other hand, a force less in amount and acting at right angles to the neck will produce an unimpacted or intra-capsular fracture. The patient is often unable to tell, however, how the fall occurred. Besides, the fall may be the consequence rather than the cause of the bone giving away, as when a patient slipping from a curbstone receives an intra-capsular fracture, and then confuses the diagnosis by falling upon his trochanter. Eversion of the foot is of little practical differential value. It may be present, either slightly or markedly, in either variety. If there is any difference it may generally be shown that in impacted fracture the eversion is of a positive character, impressed on the limb by the interlocking of the fragments, and does not yield to any moderate force. In non-impacted fracture, on the other hand, the eversion is due to the weight of the limb, or contraction of the external rotator muscles, and is, therefore, not so persistent.

In the amount and character of the shortening we have the first symptom of positive value. With regard to this feature of the case, you will find among authorities the greatest difference of opinion. Some assert that it is greater in one variety, some in the other. It all depends on the presence or absence of impaction.

If a fracture at the base of the neck be unimpacted the shortening would very probably increase from day to day, and, being entirely free from capsular restraint, might reach an amount scarcely attainable in a fracture within the capsule, unless this capsule were extensively lacerated. Impaction, however, is only compatible with shortening certainly not exceding an inch in amount. Practically, in such cases, the shortening is almost invariably about three-quarters of an inch, due partly to the telescoping of the fragments, and partly to the lessening of the angle between shaft and neck.

Moreover, the shortening in impacted fracture is constant from day to day, and is not to be increased or diminished by a moderate and safe force. The pull required to bring the limb to its proper length is said to exceed, on the average, forty pounds. In the unimpacted fracture the shortening, at the first examination, may be nothing, or an inch or more, can be readily increased or diminished, and generally increases from day to day.

It is, however, to the larger trochanter we must look for convincing evidence as to the nature of the injury. The foregoing symptoms are valuable as proving the existence of a fracture of the neck, but with the possible exception of shortening, are of little worth in determining the kind of fracture. Some author has said that the diagnosis for fracture of the femoral neck could often be made from an inspection of the foot alone. I am certain that the result has often justified a differential diagnosis based upon an examination of the trochanter alone.

What now are these important trochanteric symptoms? In a fracture wholly within the capsular ligament the trochanter can be changed only as to its position and relation to other parts. In the impacted fracture at the base of the neck, on the contrary, the trochanter is always split, often comminuted, and, we must add, therefore, in such cases, changes in its appearance and behavior. For this part of the examination the patient should be on the back, close to the edge of the bed, with hips and both lower extremities naked (if a man); covered only with a tightly and smoothly drawn sheet, if a woman. The surgeon, kneeling or sitting by the bed, should put one hand on each trochanter and examine like points at the same time. For example, as one must begin somewhere, let the question of the distance of each trochanter from the crest of its corresponding ilium be settled once for all; while at the same time, the limb, being *gently* pushed and pulled by an assistant, we may determine the presence or absence of impaction. The amount of reliable information to be gained by this system of simultaneous bimanual examination of like points, the importance of which is not sufficiently understood as a rule, is truly remarkable. In both fractures the trochanter is or may be above its proper level. *Here the likeness ceases. In the intra-capsular variety,* the *trochanter,* no *longer propped out by the neck, is drawn by the muscles attached to it, whose entire pull is inward, toward the medium line,* and in well marked cases is tucked under the flange of the ilium, becoming, of course, less prominent and allowing the hip and buttock of that side to flatten. On the other hand, in the impacted fracture, the trochanter is higher by an amount which is constant, unless due force is used. It is also markedly prominent. One of the effects of the fracturing force is to lessen the angle between neck and shaft, causing it to approximate a right angle. As the trochanter rises, therefore, it is at the same time pushed out, a result only partly neutralized by the telescoping of the fragments. As now the surgeon's hands are passed down the patient's sides, the hand

over the affected side, instead of gliding smoothly along the tense fascia between the iliac crest and the trochanter, and over the latter, almost unconscious of its presence, suddenly falls into a depression below the crest of the ilium, the fascia lata being relaxed by the elevation of the trochanter, and is as suddenly checked at the lower part of the depression by the prominent lip referred to, behind which in thin individuals the fingers may even be slightly inserted. By this raising and widening process, not only is the hip made fuller and rounder than the opposite presumably healthy side, but obtains a shape noticeable to the hand, and in some cases to the eye also, which I call, for want of a better name, "square shouldered." This condition can scarcely escape observation, and its meaning seems to me unmistakable. The prominence does not yield to lateral pressure; while in the unimpacted fracture the flatness of the hip can sometimes be increased by pressing the unpropped trochanter still further inward.

In these impacted fractures, as before mentioned, the trochanter is nearly always split or comminuted. Its antero-posterior diameter is therefore increased, first by the mechanical wedging apart of the fragments, which increase is afterward made still greater, and this in all diameters, by inflammatory deposits.

The splitting or other injury to the trochanter naturally increases the sensitiveness of its outer surface, so that complaint of pain is made when pressure is exerted upon it. A good plan is to compress the trochanter antero-posteriorly with thumb and finger. In this way it may be clearly made out whether the tenderness is in the trochanter itself or is more deeply seated. Care must also be taken not to press upon the overlying soft structures, in all cases when these are contused. Some tenderness over the injured trochanter may be found by pressing upon it within an hour after injury. It increases as inflammation is set up in the periosteum and other fibrous tissue surrounding the trochanter, reaching its maximum only after several days. It will be noticed therefore, that the trochanteric symptoms grow more and more marked for several days, at least, so that a diagnosis somewhat doubtful at first may soon be confirmed by a little careful observation.

Bryant's and Nelaton's lines—good but not reliable in my hands.

Should there be no impaction present in fracture at base of the neck I should consider a positive diagnosis almost impossible, but should try to base it on age, direction of force, rotation of femur on its own axis, and signs of injury to great trochanter.

A word about the peculiar medico-legal aspect of these cases. Suits against surgeons for failing to secure bony union in intra-capsular fractures, or on account of the deformed, shortened and partially crippled limbs resulting from the impacted variety, are not uncommon. I am convinced that by a little foresight on our part these suits can be avoided. The first recommendation I would make is the careful differentiation of the varieties, with a view to accurate prognosis. On the basis of this clear diagnosis, let a prognosis equally clear be made in plain language, and in the presence of reliable witnesses. Not one patient in a thousand is dissatisfied with a result which was foretold from the day or perhaps hour of injury.

I would even go farther than this, however, and carefully and patiently explain, as I have done for years, both to patient and friends, aided by rough sketches or pictures in text-books, the exact location of the fracture and the absolute necessity of the results, whatever they may be. Honesty between surgeon and patient never pays better than in this instance. I should

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advise also that we claim no special credit for good results in such cases. If we do, now how are we to escape the logical conclusion on the part of patients that we are responsible for bad results? Taking this view of the matter, therefore, I tell my patient: You have suffered from a fracture of the neck of the thigh bone; the break is in such a place; the fragments are in such a relation to each other; the result, if you live, will probably be so and so. I am utterly powerless to affect this result for better or worse. All I can do is to relieve your pain, look after your general health, and carry you as comfortably as possible through the period of confinement and suffering which necessarily follows your injury.

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CHANGES OF METABOLISM IN DIABETES MELLITUS

BY DR. ROBERT H. HARPER. AFTON, OKLAHOMA

Read Before the Seventeenth Annual Meeting of the Oklahoma State Medical Association, May, 1909.

In this paper, no originality will be claimed nor assumed, as the data are from the writings of various workers, and from the literature; nor will any detailed account of the disease be given, as this may be found in any good text-book; but any description of the etiology and pathology of the disease that is more than four or five years old is out of date, the truth of which a perusal of the literature of the past ten years will convince any one.

Definition. A persistent variation from the normal metabolism of carbohydrates and fats, in which an excess of glucose is present in the blood, and is excreted in the urine; usually characterized by loss of weight, thirst, polyuria, and a tendency to a fatal termination.

The carbohydrates of the food undergo a series of changes during digestion, as a result of the action of the diastatic ferments in the saliva, pancreatic juice, and succus entericus. Starchy food is acted upon to a limited extent by the ptyalin of the saliva; the molecules of starch are hydrolyzed by the addition of a molecule of water, and the end result of successive stages is that the starch is converted into maltose and dextrin; this process is limited on account of the short time that the ptyalin has to act, except that some of the food of an ordinary meal may remain in the fundic end of the stomach an hour or more, untouched by the acid of the gastric juice, which promptly stops the action of ptyalin. It is not known that the action of ptyalin is changed in diabetes.

In the stomach, the dextrin, formed by the action of ptyalin, is probably absorbed; but most of the starch and sugar foods are passed on, unchanged, into the small intestine, where the important processes of digestion and assimilation occur. As the carbohydrates are acted upon by the pancreatic juice, the source of this secretion will be considered. It is now established that the effect of the contact of the acid secretion of the stomach upon the duodenal mucous membrane and its secretion is to convert what is known as pro-secretin into an active form, secretin, which is absorbed into the blood, reaches the pancreas through its artery, and stimulates the pancreatic cells to secrete the ordinary pancreatic juice. This, it is interesting to note here, does not contain trypsin, the proteid digesting ferment, but a potential form of it, known as trypsinogen; the duodenal or jejunal mucous membrane in its turn, secretes a substance, enterokinase, which, combining with the trypsinogen, forms trypsin as needed; trypsin

is such a powerful digestant of proteids that were it not for this method, an excess of it might digest the mucous membrane itself. Lipase and amylopsin are probably formed in the pancreatic juice ready for immediate action. Amylopsin is similar or identical to ptyalin; it hydrolyses starches into dextrin and maltose, which is further converted into dextrose and levulose, the former being by far the larger in amount.

Cane and milk sugars are di-saccharids, $C_{12}H_{22}O_{11}$ and cannot be used as such by the body tissues. By the action of an intestinal secretion, invertase, they are hydrolysed, by the addition of one molecule of water, into dextrose and levulose. Any excess of the di-saccharids above the converting power of the amylopsin, is absorbed unchanged and excreted in the urine. The dextrose and levulose formed from the sugars and starches are absorbed by the small intestine, enter the portal vein, and are carried to the liver, where, by a process of dehydration, they are changed into glycogen $C_6H_{12}O_6 + H_2O - C_6H_{10}O_5$. This, when needed by the tissues, is re-converted into glucose, probably by the action of a special enzyme secreted by the liver cells. But if dextrose reaches the liver faster than it can be changed into glycogen, it causes an increase of the amount in the blood, and when this exceeds 1 to 2 per cent, it escapes in the urine. The renal mechanism seems to be adjusted to this physiological limit; this accounts for transient glycosuria, after the ingestion of a large amount of sugar in the food, and is a normal method of getting rid of the excess of sugar.

Glucose and glycogen are formed from proteid food, to a small extent, in health, and in diabetes, this becomes abnormal, even the body proteids being converted into dextrose.

The liver is capable of storing up glycogen to 14 per cent of its own weight. Taking the average at 55 ounces, for the adult liver, this would mean 7.7 ounces, nearly 1-2 pound, of reserve glycogen.

An important point to note here is the fact that glycogen is liberated from the liver "probably by the action of a special enzyme produced by the liver cells." As in the case of trypsin and secretin, this enzyme may depend upon some other secretion for its formation, and if, this potential enzyme were lacking, or in excess, the action of the liver in normal metabolism would be interfered with.

We will now trace the normal course and role of glucose in the tissues. By the blood, it is carried to the muscles, where probably a small part is used at once, but by far the larger part is changed into glycogen, and stored in the muscle cells. This, the evidence shows, is effected by a special ferment, or part of one, secreted by the muscle cells, but depending upon another ferment that probably comes from the pancreas. As needed for energy production, this muscle glycogen is re-converted into dextrose, passing from the form of dynamic to kinetic energy, being oxidized in the muscle tissue into carbonic acid and water. Glycogen cannot be used as such by the muscle cells, nor can dextrose be stored either in the liver or muscle tissue. The amount of glycogen the muscles are capable of storing may equal the liver in weight, or .5 to .9 per cent of the weight of the essential muscle tissue.

Here, in the muscle cells, is another place where the normal metabolism may be disturbed. Some secretin, in excess or deficiency, may prevent glucose from being converted into glycogen, and so increase the amount in the blood above the normal limit of .2 per cent; or after being so stored, may cause it to be liberated faster than it can be used, or prevent it being used at all by the muscle cells to produce kinetic energy. The last is the most probable derangement of metabolism.

In 1903 and 1904, and again in 1906,

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Otto Cohnheim made some very enlightening experiments on carbohydrate metabolism. He obtained juices from the pancreas and muscles by pressure. Each juice, when added to a solution of glucose, was inactive. When muscle juice and glucose solution were mixed, and pancreatic juice added, there was rapid and eventually complete conversion of the glucose into carbonic acid and alcohol. He believes that both the pancreas and muscle cells produce substances that are necessary for carbohydrate metabolism. Notice the conversion into carbonic acid and alcohol. The experiments of Lepine, of Paris, show that alcohol is probably a product between dextrose and final oxidation into carbonic acid and water, in the muscle tissue. Also note that this has a special bearing on the treatment of special cases of diabetes. This theory is advanced by Carl Ramus, in a paper in the Journal of the American Medical Association, February 6, 1904. Cohnheim's experiments prove that there is a special ferment in the pancreas that enables the muscle cells to use glucose in the production of energy; what is this special ferment? In 1889 von Mering and Minkowski removed the pancreas from animals, and found that in all cases, the operation was followed by glycosuria, even if carbohydrate food is withheld from the diet. There is also an increase in the amount of urine, and of urea, thirst, hunger, emaciation, muscular weakness, and death results in from 2 to 4 weeks. But if a portion of the pancreas is left, one-fourth or one-fifth, of its bulk, no glycosuria follows, even if the remnant has no connection with the duct, or it may even be transplanted to the abdominal wall. This proves that it is not the ordinary pancreatic juice that controls the amount of glucose in the blood; considerable evidence has accumulated to show that it is not the pancreatic cells of the secreting tubules that is concerned in carbohydrate metabolism, but a special product of the islands of Langerhans; in man, these islands are scattered through the pancreas, forming spherical or oval bodies, that may reach one millimeter in diameter. The cells in these bodies are polygonal, their cytoplasm pale, finely granular, and small in amount; the nuclei possess a thick chromatin network, which stains deeply; each island has a rich capillary network which resembles a glomerulus of the kidney. Ligation of the pancreatic duct is followed by atrophy of the pancreatic cells proper, while those of the islands of Langerhans are not affected, and glycosuria does not follow, which is the condition when the whole organ is removed. Obviously, these islands secrete a substance which controls the formation, or the liberation, or the consumption of dextrose, either in the liver, or in the muscles. This was worked out by Opie, in Welch's laboratory, and published in 1900 and 1901, and independently by Sobelow, in 1901. "Hyaline degeneration of the islands appears to be the characteristic lesion in pancreatic diabetes in which they are not destroyed secondarily to an interstitial pancreatitis."

The essential and principal variation of metabolism in diabetes is an excess of glucose in the blood; the normal amount varies between .1 and .2 per cent, but in diabetes it is always more than this, and may reach 0.6 or 0.7 per cent. There is a failure of the liver to store up glycogen, as the amount in the liver is always reduced, and may be absent entirely. There is a demand for an extra amount of food to make up for the loss occasioned by the glycosuria, and consequently, there is excreted an excess of nitrogen in the form of urea; this becomes pathological only when the nitrogen excreted exceeds that taken in the food, showing that in addition, the nitrogen of the tissues is being used. There is also a decrease in the ability of the tissues to oxidize fats, and beta-oxybutyric acid, and its derivatives, diacetic acid and aceto-

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zone, arise as a result of the incomplete oxidation of the fats.

The presence in the blood of an excess of glucose means one of two things: Overproduction, or under-consumption; there is no evidence that there is more glucose formed from a certain amount of food in the diabetic than in the normal individual, but there are some data that lead to the belief that there is a lowered power of the tissues to oxidize glucose, and, to some extent, fats.

A very suggestive theory may be based on the fact that when the pancreas is removed, there follows a glycosuria; now, if the adrenal secretion is inhibited, there is no glycosuria; and again, if adrenal secretion be injected in a normal individual, glycosuria results; this seems to indicate that some principle in the adrenal secretion, if present in the blood, in excess of some other secretion of the pancreas, most likely the secretion of the islands of Langerhans, than there is an under-consumption of glucose by the muscle tissue; this, in its turn, seems to depend upon the proper proportion of the pancreatic and adrenal secretion, on the one part, to combine with a muscle-cell secretion on the other, and that when the balance is disturbed, normal oxidation of glucose does not take place, the muscle cells are unable to decompose the glucose molecule, the amount in the blood reaches the limit to which the renal mechanism is adjusted, and it is drained out in the urine. Sweet and Pemberton conclude from their experiments that there is a principle in the adrenals and the nervous part of the pituitary gland that, in excess, suppresses the secretion of the pancreatic juice, and probably also, the secretion of the islands of Langerhaws; this has been found in no other tissue, is independent of the principle that causes a rise of the blood pressure. This is very suggestive that the adrenals, or the hypophysis, or both, hold the key to the pathologic changes in diabetes.

CONCLUSIONS.

The internal secretion of the islands of Langerhans seem to be essential to normal carbohydrate metabolism; this seems to be controlled by the adrenal, and probably also, the pituitary secretions; a special product of the liver and muscle cells is also essential to the process.

The glucose in the blood may be prevented from being converted into glycogen by the liver by the deficiency or excess of a special enzyme or secretion, probably the product of the pancreas, the adrenals, or the hypophysis.

From the same reason, the liver may give up its glycogen faster than demanded by the muscle cells; or, the liver mechanism may not be deranged at all, the demand of the insufficiently supplied muscle cells causing it to give up an excess of glucose.

Deficiency or excess of some special secretion seems to prevent the consumption of glucose by the muscle cells, or prevent its conversion into glycogen; again, the same cause may allow muscle glycogen to be converted into glucose faster than it can be oxidized, or this final oxidation process may be prevented, which last seems the most probable.

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There is some evidence that alcohol is an intermediate product between the dextrose resulting from the conversion of muscle glycogen and the end products of carbonic acid and water.

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A CASE OF SUPERNUMERARY OVARY

BY F. W. NOBLE, M. D., GUTHRIE, OKLAHOMA, SURGEON TO OKLAHOMA METHODIST HOSPITAL; SURGEON TO FT. SMITH & WESTERN RY. AND EL RENO & WESTERN RY

SUPERNUMERARY OVARY.

My excuse for reading you a paper on Supernumerary Ovary is that this condition is so rarely reported that all authentic cases should be placed on record. Engstrom defines a supernumerary ovary as an additional gland, which is independent but equally important to the normal ovary. He defines an accessory ovary as a mass of ovarian tissue, which has been cut off from the normal ovary as a result of certain conditions obtaining in fetal or post-fetal life. He further states that the supernumerary ovary has its origin in early embryonic existence, during the time the sexual glands are being differentiated from the uro-genital ridge. The accessory ovary he believes is a portion of the usual ovary which has become separated from the ovary as the result of some disturbance, frequently peritonitis or an inflammatory state which has arisen during fetal or post-fetal life; so that may be merely fission, probably on the same principle that bands within the amniotic sac cause spontaneous amputation and other deformities.

An accessory ovary may be intra-peritoneal or retro-peritoneal, the former being apparently of more frequent occurence. The reported instances of retro-peritoneal accessory ovary or isolated portions of ovarian tissue show that they are often best placed between the layers of the broad ligament, but occasionally, as exemplified by a tumor containing ovarian structure, they are met with under the peritoneum of the posterior pelvic wall or behind that of the abdominal parietes.

Up to the present time no instance of normal accessory ovary or ovarian tissue in these latter locations, is reported in every instance degenerative processes having taken place when the adventitious organ was discovered. Perhaps the explanation of this lies in the fact that so small a body as the ovary, in such positions as those cited would be very difficult to recognize until attention had been called to its presence through symptoms arising from pathological changes.

Manton reports a case of multiple operation with appendectomy, total ablation of the left appendages and resection of the right ovary, who was operated upon the second time for pain in the right iliac region and more severe backache than ever, in whom he found cystic degeneration of the remains of the right ovary, and behind the uterus, buried in the tissues of cervico-vaginal junction and distinctly below the peritoneum, a small mass the size of a filbert could be outlined and pressure on it caused severe pain at the "spot" as the patient said. It consisted of a mass of friable tissue more than one inch long and three quarters of an inch thick and when this was removed the symptoms subsided.

Gibbs of Detroit said it was composed of an ovarian stroma with a few Graffian follicles.

It is not of so rare occurence to find one ovary absent and when this occurs the corresponding half of the uterus and also tube of that side and very often the kidney will be found lacking. Rarely however do we find mention of either actual accessory or supernumerary ovaries; although not rarely a constricted portion of an ovary has been mistaken for the real thing. Accessory ovaries immediately adjoining a normal ovary and contained usually within the same epithelial covering have been found at post-mortems and at operations; but actual accessory or supernumerary ovaries sit-

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uated at a considerable interval from the other ovaries seem positively rare. *It is probable that incomplete removal of all the ovarian tissue is the cause of recurring flow after total ablation of the uterine appendages and not the presence of a third ovary because Bland Sutton deems these extra glands so rare that he says there is no established case of an accessory gland quite distinct and separate from the main gland; but Grohe reported a case of supernumerary ovary and mentioned a second case described by Klebs, where a constriction band cut the ovary in two halves, each rudimentary. An autopsy on a new born babe which showed six appendages to one normal ovary and while one of these showed normal ovarian tissue, the remainder was cystic, Kochs and also Lumniczer described supernumerary ovarian finds. Winckel reports a case between the uterus and bladder.

The case I wish to put on record is the following: A spinister 30 years old, residence Guthrie, Okla., occupation, teacher. Family history negative except one aunt died with tuberculosis. Personal history contains nothing of note except that at sixteen years of age she suffered from a "breaking out" on the neck and at this time she also had an attack of continuous nausea accompanied by severe pain in the neck and face lasting three weeks, which was followed by facial paralysis lasting for six months. She complains that menstruation comes on every three weeks, lasts two or three days, is profuse and clotted and that she suffers greatly with pain especially before and after the flow. She also complains of pain down the inner side of the thighs on the outer side of the hips in groins and sacral region which are increased at the menstrual period. She suffers from insomnia, vertical headache, slight cough, deafness, lassitude, anorexia, belches gas after meals, bloating of the stomach after meals.

She tires easily, especially in the back, wakes up unfreshed in the morning, there is a bandlike sensation around her head, memory is poor, she finds difficulty in planning, worries all the time, cries easily, all the reflexes are exaggerated and wrist jerks are present.

An examination of the pelvis demonstrates a retroflexion of the uterus and two tender ovaries. The diagnosis was Neuresthenia, Retroflexion of the Uterus with probable Cystic Degeneration of both Ovaries. An examination of the stomach contents showing chronic gastritis.

I advised operation and later opened the abdomen by low median incision and found the diagnosis of cystic ovaries confirmed as well as retroflexed uterus and an enlongated appendix containing fecal concretions was removed. The ovarian cysts were incised and the lining membrane of the cysts wiped out according to Watkins technique and the wounds of the ovaries sutured with fine catgut.

I was surprised to find a well developed ovary about the size of a wren's egg situated about an inch posterior and inward from the left ovary which microscopically consisted of normal ovarian tissue. It lay in the broad ligament an inch posterior and inward from the left ovary. The retroverted uterus was corrected by Ventral Suspension.

References: Gray, Flint, Piersol, Kelly, Bland Sutton, Penrose, Manton, American Textbook of Gynecology, Dudley, Spencer Wells, Leidy.

*Since writing this paper I have seen an article on "hemorrhagic uterus" that may have some bearing on this point.

It is more than likely that a rule abolishing the common drinking cup upon railroad trains, interurban cars, depots, public buildings and public schools will be announced to take effect the first day of April.

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THREE ECTOPICS AND THREE OPERATIONS IN THE SAME PATIENT IN FOUR YEARS

BY DR. J. HUTCHINOS WHITE, MUSKOGEE, OKLAHOMA

In a series of ectopic cases reported in the January, 1909, number of the Kansas City Index-Lancet, I gave a history of the second ectopic in the following case. Since that time the third tubal pregnancy has taken place:

Mrs. H., age 33 years, married 16 years, a fleshy woman, suffered from one attack pneumonia since childhod. During childhood suffered from whooping cough and measles. Periods began about fourteen years of age, suffered no pain, flow normal, periods lasting five days. Has given birth to three children; one now living, five years old; one miscarriage. No complications arose at time of births or after miscarriage.

Two weeks prior to her first operation, on November 27, 1905, she was seized with pain in lower abdomen and bloody discharge from vagina. She did not skip a period, however. On the above date the cul-de sac was opened and a quantity of blood evacuated. Recovery uneventful.

Two and one-half years later she failed to menstruate in April, and on May 25th was suddenly taken with severe cramps in lower abdomen, temperature 101° F. Pain and tenderness in pelvis on examination. The following day patient suffered from considerable shock and abdomen became rigid. She rallied from this and improved up to the 29th, four days after onset, when she again suffered much pain. I saw her first in consultation with Doctors Joblin and Adams, May 1st, and operated same day removing left tube and ovary. The abdomen was filled with a large quantity of blood. Recovery uneventful. On examination of the tube we found a scar the seat of rupture of first ectopic.

May of this year patient again skipped her period, and in June was seized with a sudden sharp pain in lower abdomen. Nauseated and suffered shock. Abdomen became swollen and very tender. Her condition was too grave to move to hospital at once. She rallied from the shock and gained enough strength to be carried to a hospital two days later, where abdominal section was performed, and the right tube and an ovary removed. Recovery uneventful.

I would like to call attention to the fact that the second and third operations were performed five days and four days respectively after primary rupture.

THE VALUE OF BISMUTH VASELINE TREATMENT IN TUBERCULAR SINUSES AND ABSCESS CAVITIES

BY A. A. WEST, M. D., GUTHRIE, OKLAHOMA

Read before the Lincoln County Medical Society.

The failures in the treatment of tubercular infections, both of the bone and soft tissues has been so appalling, and the multitude of patients going from one surgeon to another seeking relief, only to be disappointed, and finally giving up, with perhaps a half dozen discharging sinuses had almost caused a panic amongst surgeons both in this country and Europe.

The numerous methods in vogue at one time or another have all become obsolete

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after time and practical demonstrations proved them worthless.

You are all acquainted with the later methods of treatment, no doubt, such as was originated by Professor Senn, of using decalcified bone chips in abscess cavities of the bone in which the removal of large portions of bone was necessitated.

The Moseliz-Moorhof plug was a very favorite treatment for a time and the still later method of the iodoform emulsion in glycerine, has still many advocates today. Undoubtedly many cases have yielded to these treatments, but there is a large class of cases that have not improved under any of the above treatments.

Dr. Emil Beck (1) of Chicago has recently given us a new method of diagnosis and treatment of tubercular sinuses and abscess cavities, which seems to be gaining great headway among the surgeons in treating this class of cases. Besides answering every purpose in the treatment of long neglected tubercular sinuses, it furnishes us with an excellent method of diagnosis as well. In the last six months I have treated a number of tubercular sinuses by this method and all have given the most flattering results with one exception, and in this case the destruction of bone was so great, I was compelled to amputate the leg.

I will briefly give you the formula and the method of injection as used by Dr. Beck, and I have only varied the formula in a few instances as in my judgment it seemed necessary.

Formula of paste for diagnosis and early treatment:

Rx. Bismuth Subnitrate ..... 30!
Vaseline ..... 60!
Mix while boiling.

Formula for late treatment:

Rx. Bismuth Subnitrate ..... 30!
White Wax ..... 5!
Paraffine ..... 5!
Vaseline ..... 60!
Mix while boiling.

As to the method of injection, I will give it verbatim as Dr. Beck describes it.

"The fistula should be dried out, if possible, by packing into its depth a strip of plain gauze, one-half to one inch wide. This gauze is removed just before the injection of the paste. The emulsion is sterilized before using, and the syringe is charged while the emulsion is hot and liquid. (It is sufficiently cooled by allowing cold water to run over the springe until the contents are of the right consistency.) A glass syringe with a nozzle similar to that of the Valentine irrigating tip should then be loaded with the bismuth paste and tightly pressed against the fistulous opening; the emulsion is forced in very slowly, until the patient complains of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste until it has hardened sufficiently. An icebag may be applied to hasten the hardening of the material. I inject the bismuth-vaseline paste until the discharge ceases, and then use the harder preparation containing wax and paraffine, after which it usually remains closed. The injections are painless and produce no dangerous symptoms, such as hemorrhage, sepsis, embolism, etc."

Dr. Beck in his first paper laid stress on the drying out thoroughly of the cavity when possible, and checking the hemorrhage before injecting with the bismuth paste, but in one case that we had in which there was considerable oozing of blood after an extensive curettage of the diseased bone, we injected the paste and had excellent results. Since then, Dr. Beck has found this to be unnecessary, but where possible, I think better results are obtained if care is taken to have a clean cavity before injection.

The composition of the two formulas given may be modified to suit the case you are treating. For diagnosis and early

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treatment, I make use of formula No. 1, and for later treatment and large open cavities, I use formula No. 2, and if deemed advisable, more paraffine and wax may be added giving it still more solidity when cooled.

I do not attempt to clean the cavity with any antiseptic solutions of any kind. It is of no particular value and it is often harmful. In mixing and sterilizing the paste great care should be taken to keep out any water from getting in the paste, and the syringe to be used should be sterilized by some dry process. The plunger should then be removed and dipped into a little sterilized olive oil.

Of the value of bismuth-vaselin paste in tubercular sinuses there can be no doubt. Dr. Beck in his first contribution on this subject gives a series of thirteen cases in which he injected bismuth-vaselin paste and a sufficient length of time has now elapsed to have proved its efficacy.

These cases cover a large variety of tubercular lesions. The first case he describes as a sinus following a psoas abscess in a child four years old. The injection was made more for diagnostic purposes than that any actual benefit should accrue, but in a few days after the injection, the child returned and the sinus was found to be closed and has remained closed ever since.

I would be glad to have you all secure the Journal of the A. M. A., Vol. L, No. II, and read the reports of Dr. Beck's cases, in which he has used the bismuth-vaseline injections. In this short article I have neither time nor space allotted me to give in detail a report of these cases, but I believe if this treatment is properly carried out and given in conjunction with the electro-therapy, fresh air, fixation and bacterial vaccines, all of which are necessary adjuncts to the treatment of any tubercular process, that all tuberuclar sinuses can be healed out and patients given the relief they are seeking.

I wish to report a case in which a period of six months has elapsed and in which no evidence of the recurrence can be seen.

Case 1. F. D., male, single, 23 years old. Family history: Brother died of pulmonary tuberculosis. Previous history: When a child 3 years old he had tuberculosis of the hip joint which lasted over a period of four years, during which time there was a number of sinuses discharging from different parts of the hip. There was the usual destruction of the bone seen in these cases, ankylosis, and deformity. These sinuses all closed and he was in apparent good health until in November, 1907, when he again complained of pain in the knee joint with some tenderness when pressure was made over the great trochanter. An abscess formed which dissected its way and opened at a point on the outer thigh about four inches below the hip joint. It had followed in the tract of one of the previous sinuses. As the hip joint was already ankylosed there did not seem to be any necessity for further fixation. I operated on May 5, 1908, opening the abscess and curetting the sinus, but it continued to discharge until the following August 1st, when I injected 100 grms. of bismuth. On August 10th, he came to the office with the sinus entirely closed. He is now able to get about without the aid of crutches; all the pain and tenderness gone, and his general health has greatly improved. I have several other cases to report at a future date but I wish a suitable length of time to pass that I may be more certain of the results.

The use of the bismuth-vaseline paste injection in the treatment of suppuration of the ear, nose and throat, have been well tested out by Dr. Joseph Beck (2) in which he has treated over three hundred cases with excellent results. In this class of

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work he uses two other formulas adding considerable more of the paraffine and white wax.

The good results ascribed to the use of bismuth paste in this special field are very likely due to several causes. Dr. Emil Beck in his recent article read before the International Congress on Tuberculosis says:

"Many factors undoubtedly contribute to the healing process, but I am convinced that the bactericidal effect of the bismuth subnitrate is the most prominent one. In nearly every case treated we have noted that the injections are followed by the gradual diminution and final disappearance of the micro-organisms. Tubercle bacilli are no exception. This fact was discovered in a case of tuberculous empyema, and corroborated by another typical case. Whether the bismuth subnitrate destroys the bacilli by its chemical action or whether it exerts a chemotactic power has not yet been definitely determined. I am inclined to believe the latter to be the case. The fact that the number of tubercle bacilli at first increase in number, and are found mostly in the interior of the leucocytes, while the injections were started they were scanty and mostly extraleucocytic, supports the chemotactic theory."

Its value in the treating of abscess cavities of the lungs is fully demonstrated in a case that Dr. Beck treated by this method. The case was a boy 19 years old that in January, 1907, had a severe attack of bronchitis. This resulted in an empyema which on March 19, 1907, necessitated an operation in which two ribs were resected, the put cavity evacuated and drainage established. The young man was referred to Dr. Beck the following December with a fistula discharging two to three ounces of pus each day. The cavity was injected with bismuth-vaseline daily and though it kept on discharging, the quantity diminished, and after ten injections the wound ceased to discharge and remained dry for three days. Fearing there might be some retained pus, a tube was passed and the patient ordered to close his mouth and nostrils and distend his lungs as much as possible. This brought out the material in a semi-liquid state which hardened immediately in the basin. This indicated that the body temperature had kept the bismuth-vaseline in a liquid state, and the wax and paraffine were added to the next injection. This was done Jan. 10, and the fistula closed up entirely the next day. There were no unpleasant symptoms following except the patient coughed up some of the paste through the mouth. This proved that there was an abscess of the lung as was suspected by the character of the discharge.

As yet I have had no occasion to use bismuth-vaseline in abscess cavities of the lung, but the report of this case alone is sufficient evidence for me to give it a trial in the first case that presents itself. The benefit to the patient by this method seems to me to far exceed the more radical operations and the relief is almost spontaneous.

The use of this method of treatment does not lessen your obligation in using any other means to effect a cure. In fact I may be too sanguine as to its value in the treatment of tubercular sinuses but from the reports of Dr. Beck's numerous cases, and the widespread popularity with which it has been received by surgeons everywhere, and the results obtained in my own cases, give me some ground for my belief.

The amount of bismuth that we are enabled to inject without danger of poisoning our patients seems to be a matter of some discussion among the various authorities, that it exerts some toxic effects seems possible when given in large doses into the pleural cavities or given intraperitoneal.

Schuler (3) and von Bardeleben (4) claim it is non-toxic and Professor Muhlig (5) has administered as much as 300 grs.

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daily without producing any poisonous effects.

As early as 1793, we have reports of poisoning by bismuth, but these are thought to be due to the impurities of the drug. Kocher (6) in 1882, observed that in using bismuth where there was a large surface for absorption that it seemed to produce poisonous effects, the symptoms of which were similar to those of lead poisoning. Similar cases have been reported by Professor Petersen (7). Professor Muhlig (8) reported the following case: A man 26 years of age, received a burn on both arms, hand and neck. The same were dressed with oil for three days and the pure bismuth subnitrate applied. Two weeks later a black border around the teeth appeared and within five days more, the whole mouth and uvula were grayish-blue and slightly ulcerated. The urine remained normal, digestion normal. Recovery took place after wounds were curetted and freed from bismuth.

Dressman (9) reports a similar case and Worden, Sailer, Pancoast, and Davis (10) reported two cases in which two to four ounces were administered in one dose. In both cases symptoms of bismuth poisoning developed.

The first fatal case was reported by Bennecke and Hoffman (11). A child three weeks old was given forty-five grs. of bismuth subnitrate in buttermilk to diagnose a pyloric stenosis. The child died three hours later. Postmortem revealed small quantities of bismutn in the liver and in the blood.

Professor Hefter suggested that the death might have been caused by nitrate poisoning as nitrites were found in the blood and pericardial fluids. Bismuth could not be found in the liver or blood. These findings prompted Dr. Bohme (12) to determine the true cause of bismuth subnitrate poisoning. His results were as follows: A number of pure cultuers of the bacterium coli were found to liberate nitrites in every case when applied to bouillon to which some bismuth subnitrate was added. The controls of bouillon treated the same way but without the addition of bismuth remained free from nitrites.

Collishon (13) reports two cases of accidental nitrite poisoning in which sodium nitrite instead of sodium nitrate was given. The symptoms were cyanosis, extreme weakness, and a grayish-blue discoloration of the mucous membrane and the tongue. The symptoms were so severe as to produce collapse but cleared up after the drug was discontinued. Binz (14) injected a dog with a small dose of nitrite causing death in a few hours with symptoms of gastroenteritis.

Harnack (15) killed a cat in five minutes by administering five grammes of sodium nitrite.

The blood in all these cases presented a condition of methaemaglobinaemia which appears to be a factor in producing the cyanosis, dyspnoea, diarrhoea and cramps. As the sudden change in the blood impairs the internal or tissue respiration and the patient dies with symptoms of suffocation.

The injecting of large cavities with bismuth-vaseline paste in which a large part of the bismuth subnitrate is retained, the question naturally arises: what becomes of the bismuth? In many instances as the cavity itself closes, the bismuth is forced out, but in many other instances it becomes encapsulated and absorbed. This has been demonstrated by taking radiographs at frequent intervals. Harnack (16) states that bismuth subnitrate is slowly absorbed and slowly eliminated. Bergeret (17) and Wood (18) detected bismuth in the urine after its administration also proving that it is absorbed and eliminated very slowly.

The reports of these cases by men of advanced professional standing, signals a note of warning in the indiscriminate use of bismuth especially in extreme doses. I

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have given from 30 to 50 grms. of bismuth subnitrate for a prolonged period of time without noticing any toxic symptoms.

In the Beck clinic in Chicago over 2,000 bismuth paste injections have been given, some as much as 300 grms, without encountering a true case of poisoning. He suggests, however, that not more than 100 grms. be given at the first injection which can then be subsequently increased, when the resistance of the patient has been observed.

When occasion demands the administration of large doses of bismuth subnitrate, either by mouth or injection of sinuses or abscess cavities, I would advise that the urine be examined frequently for casts, and the blood tested for haemaglobin, and if any toxic symptoms appear, discontinue its administration. When symptoms of poisoning do occur, it is best to remove the bismuth paste and for this purpose Dr. Beck has contrived a special suction apparatus. This is accomplished much easier by injecting into the cavity some sterile olive oil.

Since writing this paper, two cases of bismuth poisoning with one fatality following injection of bismuth-vaseline paste have been reported by David and Kauffman (19). The symptoms were those produced solely by the bismuth constituent of the subnitrate, no nitrite symptoms such as syanosis, dyspnoea, etc., being observed.

Case 1. Patient, W. E., an American, aged 24, single, bookkeeper, entered Cook County Hospital Aug. 31, 1908, on Dr. Ryerson's service. He gave a history of discharging sinuses about the left hip, which had existed since an injury twenty-one years previously. Examination showed an ankylosed hip with healed and discharging sinuses anteriorly and posteriorly. A clinical diagnosis of tuberculous hip was made.

Bismuth Treatment.—On September 8, three ounces of 33 1-3 per cent bismuth vaseline paste was injected into the sinus on the posterior aspect of the hip. On September 28, a second injection of about six ounces of bismuth paste caused considerable immediate pain to the patient.

Effects of Bismuth.—Pain continued through the night so severe that the patient got scarcely any sleep. On the next day the temperature, which had been normal, rose to 101° F., but returned to 98° in the course of forty-eight hours. The sinus remained open and discharged some pus and small amounts of bismuth paste. Eleven days after the second injection the patient complained, on awakening, of pain in the mouth. From this time on an intense stomatitis rapidly developed. Pain and burning were very severe, and increased so much on attempted mastication and deglutition that the patient took very little of even liquid diet. The gums were swollen and extremely sore. The teeth became loose. A gradually widening, heavy greenish-blue line showed on the gums and on the tip and margins of the tongue. On the left side of the tongue small superficial ulcers apperaed, which increased and coalesced until larger than the thumb-nail; the ulcer was covered with a dirty blue black membrane. The fauces and throat showed the same swollen and pigmented condition. Salivation was constant, intense, and very distressing. Accompanying the stomatitis was some headache and a very marked constipation. The general condition remained fairly good with normal temperature, running to 99° F., only occasionally.

After reaching its height the stomatitis gradually subsided so that at the end of six weeks the ulcerations and salivation had entirely disappeared and the patient was again on regular diet.

The patient complained of continued pain in the hip. An X-ray examination showed deposits of bismuth about the joint and a small necrotic focus in the great

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trochanter, which was removed by operation on December 7. An abscess which formed in the thigh six days after the operation but which had no demonstrable connection with the operative wound, was aspirated twice under 2 per cent cocain and and finally freely incised. Large amounts of bloody pus and later masses of reddish discolored paste was discharged.

On Dec. 21, several days after cocain had been used, the patient, who previously had been quiet, and well-mannered, became suddenly rather noisy, restless, and unable to sleep. During the day he was irritable, ugly, abusive to the nurse, and at times irrational. He also became negligent about his person, showing a complete change in his temperament.

At present, five months after the first injection of bismuth paste, the patient's general condition is much improved; the sinus is closed; the abscess nearly healed, and mental condition almost normal. The bluish deposit still remains on the gums in a deep blue line a little more than an eighth of an inch in width, extending to the very margin of the gums. Both the labial and lingual surfaces of the lower jaw are involved; more than those of the upper. Points of teeth contact on lips show blue canines. The tongue-lip and lateral margins extending to the under surface show areas of bluish discoloration solid to first glance, but made up of punctate spots of bluish deposit slightly larger than a pinpoint.

At no time was there any palpitation, dyspnoea, cyanosis or dizziness.

Case 2. Patient, H. F., well-nourished white man, 21 years old, freight handler, entered Cook County Hospital on the service of Drs. Kahlke and Keyes, Dec. 31, 1908, complaining of lameness and presenting a sinus above inner third of right Poupart's ligament. The clinical diagnosis of a tuberculous hip was made with some difficulty; but a skiagraph revealed an irregular area on the head of the femur. The patient's temperature varied from 98.6° to 103° for a few days after admission, depending somewhat on amount of pus discharged. Pulse was 80 to 90; respiration, 20.

Bismuth Treatment.—Six ounces of a 33 1-3 per cent bismuth-vaseline paste were injected into the sinus on Jan. 19, 1909; a skiagraph taken on the same day showed the bismuth shadow leading to the diseased head of the femur.

Effects of Bismuth.—Ten days after the injection the patient complained of soreness of his gums and an increased flow of saliva. An examination of the mouth revealed a light greenish-blue discoloration of the gums, linear in character, about one-sixteenth of an inch from the incisor teeth on the lower jaw. The line was composed of pin-point puncta at first, but later became solid. There was increased flow of saliva at this time and subjectively, some nausea and anorexia. The next two days saw a further progress of the stomatitis. The blue line extended over the gums of the lower jaw, involving both the lingual and labial surfaces and remaining a little way from the margin of the teeth and gums. There was also on the lower lip opposite the incisors and especially on the lateral edges of the tongue a distinct blue discoloration of the mucosa, which seemed to follow the configuration of the teeth contiguous to them. At this period the salivation was extreme, the patient lying with his head over the edge of the bed drooling and groaning. His breath was becoming foul and he was taking no diet but liquids and this only when forced on him. His temperature was 98.6° to 99.6°; pulse 80 to 96; respiration, 20. He had some headache and nausea, but no dyspnoea, tinnitus aurium, palpitation, or syanosis of mucous membranes, ears, nose or finger-tips. On Feb. 2, the patient was nauseated and vomited several times. There was then

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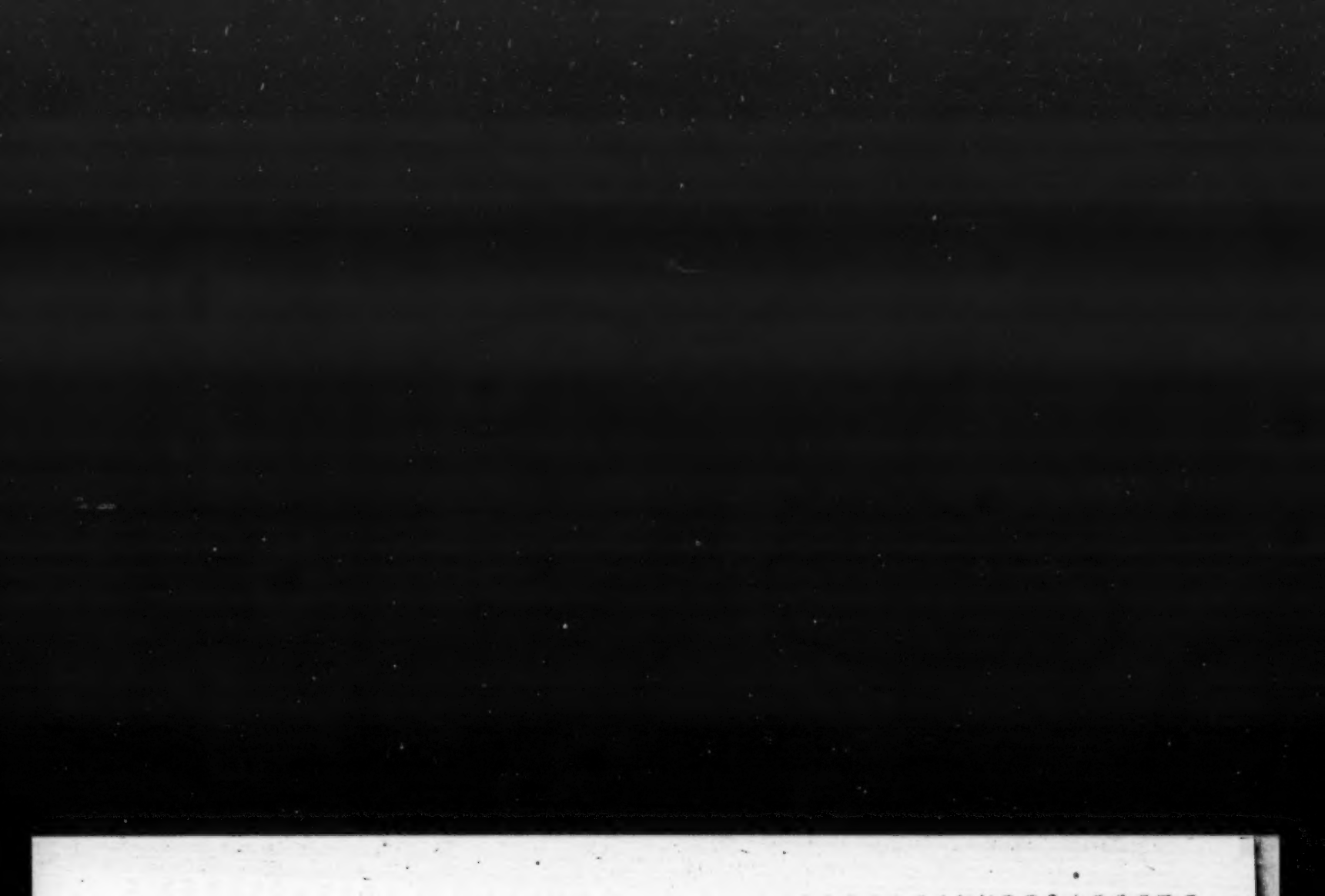

some superficial ulceration on the lateral surfaces of the tongue and labial mucosa. The blue line had become darker, a grayish-blue. There were a few erythemic blotches on neck and face. The patient was restless and did not sleep; took diet with difficulty.

In the following week the stomatitis increased greatly in severity and the general condition of the patient for the first time was bad. The tongue was swollen, about twice the normal size, and showed marked areas of necrosis on the lateral surfaces, corresponding to the teeth imprint, with central gray sloughing area and blue margins. The labial mucosa on lower lip became much pigmented, with irregular areas of superficial necrosis. The gums showed necrosis at the junction of the teeth, and the blue line was darker. Blue pigmentation and irregular superficial ulceration appeared on the fauces and right tonsil. The lower lip and face were edematous and salivation was marked. There was some tenderness over the parotid glands but no swelling; moderate cervical adenitis. The patient complained of pain in the mouth and great weakness. Speech was difficult. He groaned constantly; was becoming very emaciated, had no appetite, and was constantly nauseated. He had slight epistaxis once. His breath was putrid. The pulse was weak, 100 to 120; heart, lungs, abdomen negative; 99° to 100°; respiration, 20 to 24.

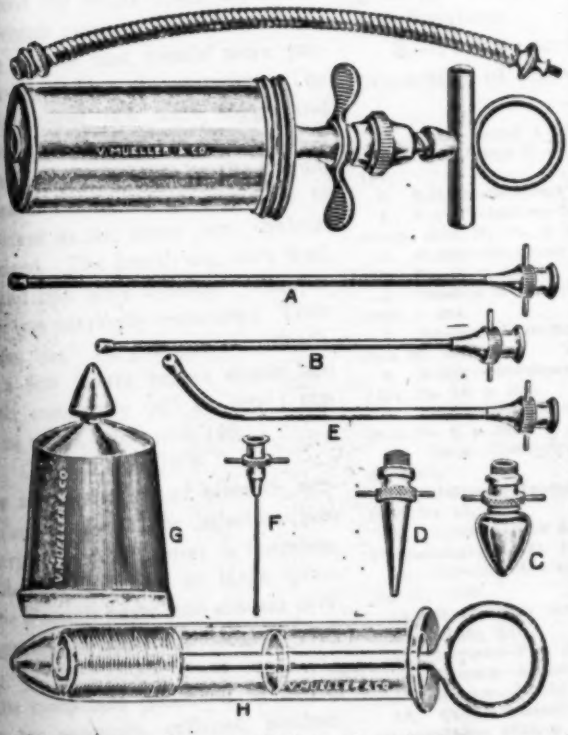

Fig. 1.—Metal syringe for use in injecting bismuth paste into the ear, nose and throat.

Tip A.—A silver canula that can be bent to suit each individual case and is used in the injections of the various sinuses after their openings have been made accessible.

Tip B.—A finer silver canula, which is used for injection into the regions of the nasofrontal duct, sphenoidal sinus region, and the upper, narrowest portions of the nasal cavity; that is, before any operation is done; also into the tonsillar crypts, supratonsillar fossae, and into the incised peritonsillar abscess cavity.

Tip C.—Olive-shaped tip for injecting ear paste into the perforations and beyond, even through the tube into nasopharynx.

Tip D.—Fits into a Eustachian catheter; used for injecting tube and middle ear by the nasopharyngeal route. Also used to fill the cavity of the mastoid process after the simple operation.

Tip E.—Eustachian catheter with large bulbous end.

Tip F.—Very fine canula for injecting tear ducts and fine fistulas.

Collapsible Tube G.—For the patient's own use for home treatment. While the result from its use will be insignificant, because not all the parts can be reached, it is convenient and necessary in some cases. The conical tip is introduced either into the nasal vestibule or external auditory meatus, and the paste expressed.

Glass Syringe H.—The same that is used for general surgical work; is practically for the use of the paste in injecting the general nasal cavity, and also the ear after the sinuses, as well as the middle ear have been filled by the metal syringe. After the various operations on the turbinates and septum, this syringe is used with good effect; in other words, for general application, as the dressing for the nose and ear.

From this time on the general condition of the patient became progressively worse. Nervous symptoms, as marked restlessness, choreiform movements and insomnia developed. Involuntary defacation and urination supervened. The patient's mentality gradually became less acute and for two

s before his death he was constantly ir-
onal and in continuous motion. Decubi-
sore developed on the sacrum and over
hip in spite of every precaution. At
time of his death, twenty-seven days
er the injection of the paste and seven-
n days from the date of the first toxic
mptoms, his tongue was almost twice the
mal size and its lateral surfaces was the
t of ragged dirty blue areas of necrosis
ich were also present on the lower lip
on almost the entire inner surface of
cheek which came in contact with the
h. The fauces and tonsils were par-
y covered with blue pigmentation. The
ns of the lower jaw were soggy and
erated but still showed the almost black
. The upper jaw, except on the lingual
face, was not affected at any time to
same extent as the lower jaw. Saliva-
had ceased. The breath was very foul.
face and lips were swollen. The pa-
t's body was markedly emaciated. Tem-
ature was 104° F., just prior to death,
until a few hours before death had
almost constantly 99° to 100°; res-
tions, 24 to 26, and pulse 120.

CONCLUSIONS.

1—The administration of bismuth sub-
te either by mouth or injection into
ess cavities in small doses is harmless.
2—After the injection of large quan-
s of the bismuth paste into abscess cavi-
, symptoms of nitrite poisoning may
ear.

3—The symptoms produced by nitrite
oning are cyanosis, collapse, methae-
globinaemia and may terminate fatally.
4—Bismuth subnitrate given internally or used as injections is absorbed very slowly and as slowly eliminated.

5.—The injection of bismuth-vaseline paste into tubercular sinuses and abscess cavities, with the proper technique, has proven the best treatment for these conditions.

6.—Children are more susceptible to nitrate poisoning than adults.

7.—The prolonged use of bismuth subnitrate is very apt to cause nephritis, gingivitis, ulcerations of mucous membranes and diarrhoea.

8.—That we need to employ some other preparation of bismuth than the nitrate.

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THE ETIOLOGY, PATHOLOGY AND THEORIES OF GLAUCOMA

BY DR. EDWARD F. DAVIS, OKLAHOMA CITY, OKLAHOMA

*Read before Seventeenth Annual Meet-
Oklahoma State Medical Association,*
1909.)

primary glaucoma, the immediate lo-
cal cause is a compression or other occlu-
sion of the angle of filtration, brought on
by a combination of predisposing and ex-
citing causes.

Among the predisposing causes, come first, perhaps, age as glaucoma is distinctly a disease of advanced life. This may be explained, in part, by the fact that while the eye reaches its full development in size and capacity early, the lens continue to grow slowly and as it increases in size, the fibres of the zonule of zinn become relaxed. The lens is thus held less securely in position and it may easily be forced against the iris and encroach on the space of the anterior chamber in the case of any disturbance which might cause a rise of pressure from behind.

The majority of glaucomatous eyes are hyperopic and on account of the excessive effort required to see, there is an unusual development of the ciliary body. Hyperopic eyes are small as a rule but as this does not involve a reduction in the size of the lens, the circumlental space through which lymph must flow in passing from the vitreous to the aqueous chamber, is narrowed. In case of an increased secretion in the vitreous chamber, there is a damming back on account of the restricted circumlental space and the tension in this chamber rises, forcing the lens forward with the iris and producing a shallowness of the anterior chamber.

Owing to a compensatory out-flow through the canal of Schlemm, and the crypts of the iris, there is no general increase of tension at this time but a strong predisposing cause is present and a sudden obstruction to the excretion through swelling of the iris on account of venous stasis or infiltration, will bring on an acute attack.

Race has little influence on the liability to gluacoma although the idea that Jews are particularly prone to it, has long been almost a classic.

Probably there may be some hereditary predisposition.

Glaucoma occurs more commonly in women than in men on account of the circulatory disturbances connected with the generative system.

The exciting causse are those conditions which produce a congestion of the vascular system; sudden emotional excitement, fatigue, loss of sleep, exposure to wet and cold, hunger, heart weakness, fits of coughing or sneezing, chronic constipation, etc.

The cause of secondary glaucoma are less obscure than are those of the primary form, although the production of the increase of tension is the same in either case in that there is a lack of equilibrium between the secretion and the excretion within the eye.

Annular posterior, synechia, resulting from iritis, with exclusion of the pupil, by checking the flow from the posterior to the anterior chamber, causes the iris to be forced backward against the cornea and abolishes the filtration angle.

A total synechia between the iris and lens may have the same result but in this case, the lens also is forced forward.

In serous cyclitis, there is an alteration in the composition of the fluid secreted by the ciliary processes in that the albuminous elements are increased. This comparatively thick fluid can not escape freely through the iris crypts or through the pectinate ligament into Schlemm's canal and it collects in the anterior chamber, gradually forcing the lens and adherent iris backward, deepening the anterior chamber. With the exception of the increase in depth of the anterior chamber, the conditions are the same as those in glaucoma from other causes.

Annular synechia between the iris and cornea from perforation of the latter, show no special results in this connection so long as the wound remains open but on closure, the escape of the aqueous is shut off through adhesions.

An increase of tension may result from any form of cataract operation, either with or without preliminary iridectomy. In this case there may be some incarceration of the

iris or the capsule of the lens in the wound closing the angle, the pupil may be closed through inflammatory exudates or the hyaloid membrane may be adherent to the scar. To acertain extent, this condition is present in all cases but fortunately it is in only a small percentage that the involvement of the angle is of sufficient extent to materially alter the excretory process.

Simple wounds and contusions of the lens and the needling operation may increase the tension through swelling of the lens and consequent pressure of the iris against the cornea or incarceration of some of the lens fragments in the channels of excretion.

The lens may be dislocated and wedged in between the ciliary body and the vitreous.

Intra-ocula tumors will eventually set up a glaucomatous state. In sarcoma of the choroid, pressure on the choroidal vessels, causes an exudation of serum which detaches the retina forcing it forward into the vitreous. The tension is not increased at first, for as the vitreous chamber is encroached upon, there is a transudation of its fluid through the hyaloid membrane into the posterior and anterior chambers and out of the eye until the retina is completely detached and is forced against the hyaloid membrane and further filtration is impossible. Then it is that the lens and iris are pressed forward into the angle of the anterior chamber.

Glioma of the retina brings about much the same condition.

Tumors of the iris should be mentioned also.

PATHOLOGY.

The most important pathological changes are those of the uveal tract. In recent cases, there is an infiltration and swelling of the iris, the veins are congested and there may be many extravasations of blood. The ciliary processes are particularly swollen and press the iris against the posterior surface of the cornea where it soon becomes agglutinated.

There is a great infiltration of the pectinate ligament by pigment from the pigment cells of the iris and ciliary body. In case there is an anterior peripheral synechia it is pigmented also. This region later loses the pigment on account of its being carried by the leucocytes into the general circulation and into the anterior surface of the iris. According to Levinsohn, this alteration in the pigment epithelium is due to the hypertrophy of Mueller's muscle and the ciliary processes by pressure and possibly by a certain trophic influence. This hypertrophy may produce a dislocation of the saggital edge of the ciliary body and the root of the iris and in this way produce a shallowness of the anterior chamber.

After the high pressure has continued for a time, there is an atrophy of the smooth fibres of Mueller's muscle and the sphincter, but Brucke's muscle and the dilator of the pupil seem particularly resistant and may even undergo a permanent hypertrophy which accounts for the obstinate dilation of the pupil. The ciliary processes share in this atrophy, their secretion ceases, the tension becomes reduced and the eye shrinks. The retinal pigment layer is especially resistant but with the exception of this and the hypertrophy of the dilator and Brucke's muscle, there is a general atrophy of the whole uveal tract. The iris becomes thinner and narrower and its vessels almost entirely disappear as have the fibres of the sphincter and there is little of its former structure left but the retinal pigment layer. The pectinate ligament becomes fibrous and Schlemm's canal disappears.

In the choroid, the vessels have disappeared, particularly in the regions of the points where the vasa vortocosa pass into the sclera and in the papilla. The choroid becomes firmly attached to the sclera which is thinned and bulges outward. There may

be a total obliteration of the lumen of the vasa vorticosa. At the papilla, the layers of the lamina cribrosa are compressed and it is displaced backward until it may lie beyond the outer surface of the sclera and have overhanging edges.

Aside from the pressure atrophy of the optic nerve, there may be an atrophy of the trunk also in which the nerve fibres have given way to the increase of the connective tissue of the trabeculae.

THEORIES.

Many theories regarding glaucoma have been advanced only to be found faulty and discarded.

Intra-ocular pressure is dependent on the rigidity of the envelope of the eye and the volume of its contents. The volume of the contents is determined by the relation between secretion and excretion. As the cornea and sclera are very resistant to pressure, an increase of secretion is physiologically disposed of by an increase of excretion on account of the impossibility of any increase in the volume within the eye. The increase of tension is, therefore, due to an interference with excretion only. The chief channel of excretion is through the pectinate ligament and it is here that the obstruction must be expected.

The onset of an acute attack of glaucoma is due primarily to a stasis of blood in the general circulation. This manifests itself in the eye, principally in a swelling of the ciliary processes, which is the case of a naturally predisposed eye, compress the angle of filtration. In addition to this, the circumlental space in encroached upon and the lens is pushed forward aggravating the condition.

A sudden dilation of the pupil, in an eye with a shallow anterior chamber, by producing a thickening of the iris, may block the angle. If the swelling of the ciliary processes and increased thickness of the iris is transient, it is possible that on their restoration to their normal condition, the angle may be opened again and the pressure fall, but when the iris has been in contact with the cornea for any considerable time, an agglutination takes place and the tension will remain permanently elevated.

EMBOLI, WITH REPORT OF A CASE

BY DR. THOMAS H. FLESHER, EDMOND, OKLAHOMA.

Read Before the Seventeenth Annual Meeting Oklahoma State Medical Association, May, 1909.

Mr. President and Gentlemen of the Oklahoma State Medical Association:

It is not my purpose to attempt bringing out anything new regarding the pathology, symptoms, diagnosis and treatment of this subject, but more particularly to report that came under my observation a few months ago.

An embolus may be defined as any body transported by the circulating blood and capable by its physical characteristics of obstructing the flow of blood in any part of the vascular system. Oil and air, though not solid bodies, may be impacted within the capillaries and hence may constitute emboli. The transportation and lodgment of these bodies with the resulting changes constitute embolism.

The composition of emboli varies; they may be composed (1) detached thrombi, (2) fragments of cardiac valves or endocardial vegetations, (3) calcareous plates, (4) fragments of morbid growths torn from tumor masses and penetrating the blood-vessel walls,)5) purely extraneous bodies, such as bubbles of air and pieces of bone from fracture, (6) certain parasites, as

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echinococcus, filiaria, etc. They may be spoken of as arterial, venous and capillary, however, the most important classification is (a) simple, (b) infective. The former being aseptic, the latter containing bacteriae.

The functional importance of the tissue involved scarcely merits more than mere mention, thus it will be evident that a small embolus involving cutaneous, subcutaneous or allied structures may induce so little change as to escape detection, while an embolus of the same size involving the coronary or pulmonary artery or a cerebral area might produce instantaneous death. The possibility of at once establishing collateral circulation to supply nutrition to the area determines to a large extent the subesequent changes. With the sudden stoppage of the circulation the distal portion of the artery empties itself of blood and an area of ischemia is thereby induced; the sudden and persistent diminution in the intra capillary pressure favors the influx of blood from adjacent capillaries whose blood is directed in the line of least resistance, coincident with the changes just mentioned, dialation of the anastomasing or collateral arteries occurs, increasing the amount of blood traveling through those vessels. When the anastomosis between the artery involved and the artery whose circulation still remains intact is sufficiently free, there is quickly formed a circulation adequate to maintain nutrition in the previous ischemic area. In the absence of sufficient collateral circulation, degeneration or necrotic processes occur; especially liable to this condition being certain brain areas a portion of kidney, and spleen, the nutrition being derived from terminal arteries. The area beyond the plugging of a blood-vessel is called an infarct and is usually wedge-shaped but may be modified by a collateral circulation.

If the area is very large the center may undergo fatty degeneration, as found in cerebral softening, or it may be converted into a cyst. Repair not uncommonly takes place if the area is small. An infarct is very liable to infection while undergoing necrosis owing to the lessened resistance offered by the tissues and not infrequently a simple may be converted into an infected embolus and such diseases as pyaemia and general tuberculosis may be disseminated in this way. Amebic abscesses in the liver are most probably brought from intestinal legions through the portal circulation. Thus it may be seen that from parasitic, neoplastic and infected emboli, secondary thrombi may form and again emboli may become detached and continue the process of dissemination.

The symptoms, diagnosis, prognosis, etiology, pathology and treatment may be determined by the area involved and the character of the embolus.

Report of the Case: I was called in consultation with Dr. M., December 6, 1908, to see Mrs. A., aged 21. Previous health good, mother of one child, aged 18 months, and healthy. Patient was about three months pregnant and as her previous labor was severe with instrumental delivery, she decided at the solicitation of her friends to try a friend's "cure-all" for such troubles and had her husband procure a soft rubber catheter, which was introduced into the uterus by herself in the erect posture. Her husband attempted to blow some quinine through the catheter into the womb. No sooner had he given the first blow she fell to the floor and lapsed into unconsciousness and died about fifteen hours later.

On physical examination no hemmorrhage was present either internally or intraperitoneal. Lungs showed passive congestion, heart action rapid, 160 to 180 per minute with a general cyanotic condition. Diagnosis was an air embolus as the priamry cause of death, gaining entrance by way of the uterine sinus and carried to

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the right side of heart, producing a thrombus or going still farther by way of the pulmonary artery to the lungs and producing oedema of the lungs.

The treatment was strychina, atropine, heat, foot of bed elevated and general supportive treatment.

I would be glad to hear if any other physicians present have had a similar case and if they agree on the diagnosis.

THE TREATMENT OF FRACTURE OF THE CLAVICLE

BY LEIGH F. WATSON, M. D., OKLAHOMA CITY

The large number of dressings that have been suggested for the treatment of fracture of the clavicle proves conclusively that no one method is applicable to all cases.

Gurlt says there have been about seventy dressings devised for drawing the shoulder upward, outward and backward.

Pilcher has remarked, the fact remains that those methods that are efficient are intolerable and those that are tolerable are inefficient.

Sayre's (15) is the most popular dressing; others frequently used are Moore's (14), Velpeau's, Desault's and the Hippocrates position where it is especially desired to minimize deformity in women.

A plaster paris splint is used by O'Connor (1) and Stimson.

Curtis (2) used a wooden crutch fastened to a belt extension bar with a set screw, the belt is supported by a strap over the shoulder.

Harris (3) and Pick used a four tailed bandage.

Henson (4) used a shoulder cap over shoulder, elbow and forearm of affected side, over this Sayre's modification of Velpeau dressing.

Birdsall (5) used a Moore's dressing, over this is put an elastic bandage around elbow and over affected shoulder.

Botkin (6) used a leather or binders' board splint to fractured side and over this a bandage.

Colomb (7) used a bandage 2½ in. wide and 3 yards long; start at hand then under affected forearm around elbow and up over forearm and sound shoulder, then around neck and down in front on opposite side and fasten to starting point.

Russ (8) used a plaster paris dressing over front of chest extending just above and below clavicles, a pair of suspenders are secured in the plaster and buckled behind.

The arm of injured side is supported by a figure of eight cravat.

King (9) used two strips of adhesive plaster, the first strip beginning at inferior and of scapula up behind and over affected shoulder, then down in front under axilla and transversely across back around body to midsternal line.

The second strip begins at free border of ribs anteriorly and runs up over tilted end of inner fragment then down back to several inches below the scapula, a Velpeau bandage is worn for two weeks.

Manning (10) used a shoulder and elbow cap with Sayre dressing.

Underwood (11) used a padded collar around each shoulder fastened and tightened by adhesive straps behind.

Kinnaman (12) used a bone peg.

Johnson (13) used catgut sutures, Langenbeck wire sutures and Roberts nails the broken ends.

The barrel-hoop splint as suggested by Dr. Spohn of Corpus Christi, Texas, I believe to be the best dressing that has been devised for the treatment of these fractures in children and in selected cases it is applicable to adults.

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Its advantages over other methods are: Simplicity, ease of application, no discomfort to patient, no detention from light work nor from school in the case of children, no possibility of shoulder or elbow joint adhesion as an after result.

Case 1.—Fred W., aged 10, was struck by a street car on June 4, 1908, and sustained a complete oblique fracture of the middle third of the left clavicle.

He was admited to the New York Polyclinic hospital and treated in the service of Dr. John A. Bodine.

A splint was made from a wooden barrel-hoop long enough for the ends to fit snugly into the infraclavicular fossa while the shoulders are drawn upward, backward and outward.

A short piece of the hoop was fastened to the inner surface of each extremity of the splint. (Fig. 1.)

The nails were left projecting to prevent the bandage slipping.

This extra piece made immobilization firmer and allowed free movement of the chest in breathing.

The ends of the splint were then padded with cotton and a cotton pad placed in each axilla to prevent chafing.

While the assistant held the shoulders upward, backward and outward the fractured ends were approximated and the splint applied and firmly secured by a figure-of-eight bandage. (Fig. 2-3.)

Long strips of adhesive plaster were applied over the bandage to prevent loosening from slipping and stretching.

The patient had no pain at seat of fracture while wearing the splint, and used the arm of the affected side as freely as the other.

Union was prompt and without deformity.

Case 2.—Verde B., aged 20, teamster, while driving over a railroad crossing he was struck by a locomotive.

Besides an extensive scalp wound he sustained a complete fracture of the middle third of the right clavicle.

He was treated in the service of Dr. J. B. Rolater and the barrel-hoop splint was made of double thickness and applied in a similar manner to case 1. (Fig. 4.)

Recovery was without pain or deformity.

Bodine (16) has recently reported several cases successfully treated with the barrel-hoop splint.

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ABSTRACT OF PROCEEDINGS OF THE MEDICAL ASSOCIATION OF THE SOUTHWEST, MEETING AT SAN ANTONIO, TEXAS, NOVEMBER 9, 10 and 11, 1909.

Meeting of Executive Committee with Drs. Jabez N. Jackson, E. H. Martin, C. W. Fassett, J. D. Griffith and F. H. Clark present. Dr. Jabez N. Jackson, President,

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was invited to read a paper on Membranous Pericolitis in place of the address on surgery by Dr. M. L. Harris of Chicago who was absent. A committee composed of Dr. J. D. Griffith and E. H. Martin was appointed to audit the books of the Secretary-Treasurer.

2:30 P. M.

Call to order by Dr. G. H. Moody, Chairman, Committee on Arrangements.

Adderss by Honorable Bryan Callahan, Mayor of San Antonio.

Address of Welcome Dr. W. B. Russ, San Antonio.

Address for the District Association, Dr. W. A. King.

Address for the Bexar County Society, Dr. T. Y. Hall.

Dr. J. N. Jackson in the Chair called upon Dr. C. Lester Hall, Kansas City, to respond to the addresses of welcome.

Paper—The Need of Medical Inspection in the Public Schools, by Dr. F. D. Boyd—Chairman of the Section on Diseases of the eye, ear, nose and throat.

Dr. E. H. Martin in the Chair, Section on Surgery.

Paper—Some Observations on the After Treatment of Abdominal Section, Dr. Claude Thompson, Muskogee, Oklahoma.

Paper—Abdominal Operations and after Care, Dr. C. Howard Hill, Kansas City.

Paper—The Value of Surgical Celerity, Dr. Chas. Blickensderfer, Shawnee, Okla.

The three papers were discussed by Drs. Griffith, Kansas City, Paschal, San Antonio, Keiller, Galveston, Pettue, Eldorado, (Ark.,) Still, Brownwood, Tex., J. N. Jackson, Kansas City, C. Lester Hall, Kansas City and Wolf, San Antonio, Discussion closed By Drs. Thompson, Hill and Blickensderfer.

Paper—Damage done the Child by Adenoid Growths, Dr. J. H. Barnes, Enid, Okla.

Discussed by Drs. J. F. Gsell, Wichita, G. W. Maser, Parsons, J. N. Jackson, Kansas City, Boardman, Parsons, E. H. Martin, Hot Springs, Keiller, Galveston, and F. D. Boyd, Ft. Worth, Discussion closed by Dr. Barnes.

State Delegations selected the following nominating committees:

Oklahoma—D. A. Myers, E. S. Lain, A. W. White, H. C. Todd, C. A. Thompson.

Missouri—C. W. Fassett, R. H. Barnes, Wm. Frick, Robt. L. Neff, C. L. Hall.

Arkansas—J. T. Henry, E. H. Martin, J. A. Foltz, C. S. Pettus, A. J. Vance.

Kansas—C. E. Bowers, G. W. Maser, E. W. Boardman, C. C. Nesselrode, S. S. Glasscock.

Texas—F. D. Boyd, E. H. Carey, M. L. Graves, J. S. Turner.

8:30 P. M. Elks Hall:

Dr. Joe Becton, Greenville, introduced the President Dr. J. N. Jackson who delivered an address on Membranous Pericolitis, illustrating the same with patholigic specimen. The address received marked attention.

International Club Rooms, 8:30 A. M.

Report of the Secretary received. The Secretary called attention to the objects of the Association which he stated were purely those in keeping with the advancement of medical and surgical science in the southwest. One invitation and sometimes two are sent annually to each member of the State Associations comprising the parent body to unite with the Association of the Southwest.

A membership of 491 in good standing was reported.

November 11, 8:30 A. M.

The nominating Committee through the Chairman Dr. S. S. Glasscock reported the following nominations for officers for the ensuing which report was adopted and the officers declared duly elected:

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President—Dr. G. H. Moody, San Antonio.

Vice-Presidents—Missouri, Howard Hill.—Kansas, G. W. Maser, Parsons.—Oklahoma, D. A. Myers, Lawton.—Arkansas, A. J. Vance, Harrison.

Secretary-Treasurer—F. H. Clark, El Reno, Oklahoma.

Wichita, Kansas, was chosen as a meeting place for 1910.

Resolution of thanks to the citizens of San Antonio and to the Press of the city was introduced by Dr. A. L. Blesh, Oklahoma City, carried. Drs. E. H. Martin, Hot Springs, Ark., J. D. Griffith and S. S. Glasscock, Kansas City, were appointed to visit the next annual meetings of the State Medical Associations of Louisiana and Colorado and invite those states to affiliate with the Medical Association of the South west.

Dr. J. A. Foltz, Ft. Smith, Ark., introduced the following resolution:

"Resolved that it is the sense of the Executive Committee of the Medical Association of the Southwest to frown down upon and to do all in its power to prevent the publication of the scientific papers of the Association in Journals which advertise flagrant nostrums which make claims so as to be a disgrace to our profession if in any way we should associate with them or countenance them." The resolution was discussed and adopted.

Meeting adjourned.

The following Oklahoma Physicians were in attendance: Drs. A. L. Blesh, Oklahoma City, W. E. Dicken, Oklahoma City, E. H. Troy, McAlester, B. J. Vance, Checotah, E. S. Lain, Oklahoma City, H. C. Todd, Oklahoma City, A. W. White, Oklahoma City, D. A. Myers, Lawton, F. H. Clark, El Reno, C. F. Woodring, Bartlesville, Chas. Blickensderfer, Shawnee, J. H. Barnes, Enid, A. K. West, Oklahoma City, C. A. Thompson, Muskogee.

EDITORIAL

ANIMAL EXPERIMENTATION.

The activity of the Council on Defense of Medical Research of the American Medical Association is strongly attested by the recent issuance of several publications—rather briefs or arguments on the questions involved, which cover in a complete manner all points at issue between the regular medical profession and the rampant cranks comprising the Anti-Vivisectionist Associations.

The following comprises a list of the agruments presented by the various authorities who have undertaken the work and each member of the profession in Oklahoma should procure copies of the work, by request from the American Medical Association, in order to thoroughly familiarize himself with the matter for future use if ever needed in this state.

The articles are thorough, exact, scientific and worthy of a place in the files of your office.

Animal Experimentation and Cancer, Dr. James Ewing, New York.

The Ethics of Animal Experimentation, Dr. James R. Angell, Chicago.

The Role of Animal Experimentation in the Diagnosis of Disease, Dr. M. J. Rosenau, Washington.

Animal Experimentation and Tuberculosis, Dr. E. L. Trudeau, Saranac Lake, N. Y.

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Vaccination and its Relation to Animal Experimentation, Dr. Jay Frank Schamberg, Philadelphia.

PREPARING FOR THE ANNUAL MEETING AT TULSA IN MAY.

The Tulsa County Medical Society has already begun preparations for the entertainment of the Annual Meeting which is to occur in their city May 10th, 11th and 12th, 1910.

An Executive Committee, to have exclusive control of all matters pertaining to the meeting, consisting of Drs. C. L. Reeder, F. S. Clinton, W. E. Wright and Ross Grosshart, was appointed and Dr. Wright was named as permanent Secretary of the Committee.

Any one desiring any information about this meeting will do well to communicate with Dr. Wright who will cheerfully assist them in whatever way he can.

A KNOWLEDGE OF REFRACTION.

The letter published below is given for the purpose of calling the attention of the profession of the State to a matter that has long needed remedying at its hands and the hands of the State Board of Examiners. The custom of itinerant peddlers, traveling quacks and other persons of poor ability or none at all, who go about the state making one day stands and promiscuously fitting glasses or pretending to fit them should come to an end.

These conditions especially prevail in the smaller towns and localities far from the reach of the specialist and naturally the class of people affected are of the poorer and ignorant class as a rule and it is for this class that medical legislation and rules are peculiarly beneficial, in that they protect him from his own gullibility.

A person having anything to do with the live human being should be required to show evidence to the State Board of Medical Examiners of his fitness and the suggestion embodied in the letter that the Board of Examiners incorporate a rule requiring knowledge of refraction as one of the tests of registration is a good one and it is to be hoped will be adopted at some future date.

Nov. 13, 1909.

Dear Doctor:

At the late meeting of the Ophthalmic Section, A. M. A. (eleven hundred members,) the undersigned were appointed a Committee to promote *a working knowledge of simple refraction* among family physicians.

It has secured abundant evidence that such knowledge has been acquired and is now used by many physicians, so proving that all medical men can do likewise, if they so desire.

But that the practice may become uniform, it is necessary that the State Board of Registration require it for license and medical colleges teach it in course.

Recognizing its importance, the Michigan State Board of Registration, on Feb. 12, 1909, notified medical colleges, that thereafter, it would grant license to practice only to such applicants, as demonstrated, on a living subject, with simple spherical lenses and test types, their working knowledge of simple refraction.

Your committee is confident, that every State Board of Registration, would make a like requirement, if it grasped the situation: and then all medical colleges would qualify their students therefor.

Recalling the fact, that our system of medical education, makes no adequate provision for training the family physician in simple refraction, and that it be impossible for experts to meet the needs of all the people in this respect; it is plain that this class of cases had no source of relief other than the optician. But if the State Boards

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require a working knowledge of simple refraction for license, the needs of all the people will be fully met by qualified physicians, and the optician resume his normal vocation as a spectacle merchant.

Recognizing your great influence in medical affairs, and assuming your vital interest in enlarging the field of family practice, your Committee confidently ask your active endeavor to persuade your "State Board of Registration" to require "a working knowledge of Simple Refraction" from each applicant for license.

Each member of your Committee stands ready to assist you to a fuller understanding of the situation, or to co-operate with you in seeking its relief.

With thanks for your aid, and a report of your success, we remain, Dear Doctor,

Sincerely Yours,

LEARTUS CONNER,
Detroit, Mich., Chairman.

A. R. BAKER,
Cleveland, Ohio.

J. THORRINGTON,
Philadelphia, Pa.

91 Lafayette Boulevard,
Detroit, Michigan.

EXCHANGES

IODID OF POTASSIUM.

G. Dock, New Orleans (Journal A. M. A., November 13), reports his opinion as to this drug which he says is a striking example of the uncertainty, unrest, and dissatisfaction characterizing the therapeutics of the day. He says we have here a good example of the value of empiricism as a guide to wider knowledge as well as a refuge and comfort in time of need. First he speaks of the necessity of knowing how much of the remedy to give and says some of the ideas entertained by some members of the profession at present are an example of imperfect education as regards dosage. Any one who thinks that more than five or ten grains at a dose is dangerous in syphilis is hardly fit to judge of the qualities of the medicine. As regards the prescribing of the remedy, imperfect ideas are also entertained, some thinking that it can be given in one way, and some in another. There are other vehicles that can be conveniently used than the compound syrup of sarsaparilla. Dock has found giving the drug in a soltuion of a grain to a drop of water and using milk as a vehicle most satisfactory to him when used to produce a marked effect. A bad taste does not necessarily discourage patients from taking a remedy, and he speaks of the freedom of the method from gastric irritation as one of its advantages. Iodism is most frequently seen in patients who have been taking small doses such as one or two grains at a time, and in the form of inflammatory lesions of the skin and mucous membrane. Lack of cleanliness is responsible largely for the skin infections and local infections may be supposed to play an important part in the mucosa lesions. The iodin "drunk" and iodin mumps he has never observed. Edema of the glottis should be borne in mind but it is probable that in the reported cases there were other more important factors than the iodid. In rare cases iodid causes symptoms due to idiosyncrasy and it is possible that some of the cases of iodin coryza and iodin headache belong to this class. The more general symptoms credited to iodism, with nervousness, emaciation, tachycardia, etc., are not really due to iodids but to thyroid intoxication. He has

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used the potassium salt almost exclusively as he finds it better for the constitutional effect, but he would like to see sodium iodid tried further. He has been convinced that it has no decided advantage as regards taste and effects on the stomach are concerned. Of the special preparations on the market he does not speak with any confidence, nor does he recommend the various combinations as being of advantage. He concludes by saying: "Potassium iodid can be taken easily and safely and in adequate quantities by most patients who need it. Other preparations of iodid may prove to be better, but need to be tested, and recommendations based on the inferiority of potassium iodid should be looked on with suspicion."

CYSTOCELE.

G. R. White, Savannah, Ga., (Journal A. M. A., November 20), says that the reasons for failure of operations for the permanent cure of cystocele seems to be that the normal support of the bladder has not been sought for and restored, but that instead, an irrational removal of part of the anterior vaginal wall has been depended on for this purpose. The bladder rests on the anterior vaginal wall to which it is slightly adherent. The support of this wall is due to its attachment to the symphysis pubis for pubic bones in front, laterally to the white line of the pelvic fascia and ischiatic spine, and above and behind to the uterus. The uterus itself, being freely movable, is of little importance as a support and the real support of the vagina comes from its attachment to the white line of the pelvic fascia and especially a thick bundle of fibers attached to the spine of the ischium and radiating out on the anterior and posterior surfaces of the vaginal tube. If the fibers along the white line, and especially those from the spine, are divided, the vagina falls down and a cystocele results. It is easy to see how this can happen in difficult deliveries and he has had it occur under his eyes in a case of instrumental delivery. In the operation he describes: "The vagina is held open by two retractors, the ischiatic spine is located by palpation, and an incision from one to two inches long is made throught the mucous membrane, parallel to the white line, and extending well up the vagina. The bladder is separated from the vagina by blunt dissection until the spine of the ischium and white line are reached and can be felt uncovered beneath the finger. Hemorrhage is seldom troublesome and can be controlled by a fey minutes' pressure. The sutures, which are of chromicized catgut, are passed under guidance of the finger by a Decchamps handle-needle. The first suture goes back of the white line just as it joins the spine of the ischium. The handle-needle is taken off, and each end of the suture threaded on a separate needle; one needle is passed from within out through the median edge of the incision, taking a firm hold on the vagina; the other needle is passed in a similar manner through the lateral edge of the incision. The two ends are then clamped and are ready to be tied. A similar suture is placed half an inch lower down on the white line, and when this is in place both sutures are tied, bringing the lateral sulcus of the vagina in contact with the white line of the pelvic fascia. Should there by any prolapse at the outlet of the vagina, the incision may be extended down alongside of the urethra and the vagina sutured to the dense fascia covering the pelvic bone. The opposite side is treated in a similar manner and when both sides are tied the anterior vaginal wall is drawn up in a normal position, and has no tendency to sag, even when the patient coughs or strains. The vagina reaches across from one ischiatic spine to the other,

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without any tension; it collapses when the retractors are removed and normal relations of the parts are restored." The advantages claimed for this operation are the restoration of the normal supports, no sacrifice of tissue; rarity of recurrences, and the fact that it can be done without interfering with any other plastic work about the vagina. In fact such work has been performed in connection with the operation in all the nineteen patients so far operated on. The article is illustrated.

SALT-FREE DIET IN NEPHRITIS.

V. C. Vaughan, Ann Arbor, Mich., (Journal A. M. A., November 27), says that the following points seem fairly well established: "1. Urea and uric acid are not important constituents of the urine so far as their toxicity is concerned. I mean to say that neither of these can be regarded as the active agent in the causation of those symptoms that result from failure to function on the part of the kidney. 2. About 85 per cent. of the toxicity of the urine is due to its inorganic constituents, the most toxic of which is potassium chloride. 3. There are present in normal urine certain organic poisons, the nature of which has not yet been ascertained. 4. Although the inorganic constituents, notably potassium chloride, are markedly poisonous, they cannot be regarded as standing in a direct causal relation to that complex of symptoms which we designate as uremia. A small fraction of a grain of potassium chloride, as I have frequently demonstrated, injected into a ventricle of the brain of an animal, may cause prompt death, but neither the symptoms nor the post-mortem findings are those of uremia." He is confident that withholding salts does not touch the real cause of uremia. It seems possible that the inorganic salts of normal urine and its organic constituents may neutralize each other party. At least it has been repeatedly found that the ash of urine is decidedly more toxic than the whole urine and he thinks that there is room for more research on this point. There is evidence also that an absolutely ash-free diet may disturb the health and this also needs further study. In dogs, long-continued feeding of a salt-free diet materially reduces the acidity of the gastric juice and it has been repeatedly shown that there is a minimum of salt content in the living tissues below which it is impossible to go. Single organic salts may be more poisonous than a combination and therefore there is reason for suspecting that the inorganic constituents of the urine may neutralize each other. Vaughan shows that salt retention is not proved to be the cause of nephritis or of its edema, and it seems to him that the greatest good is to be secured by restricting salt in the diet of patients who may be called prenephritics, and there are many of this kind; he is in the habit of advising such individuals to have their food prepared without the addition of salt. He is positive that we eat too much highly salted food. With unsalted food we drink less and the kidneys are relieved of excessive work; otherwise, he has never been satisfied that he has seen any benefit in any form of nephritis in denying the patient the satisfaction of his thirst. It seems good sense to limit the consumption of food in nephritis, so far as possible without distress to the patient.

THE PALLIATIVE TREATMENT OF UTERINE CANCER.

W. B. Chase, Brooklyn, (Journal A. M. A., December 4), holds that the early radical measures have about reached their limit in the treatment of uterine cancer and that the palliative treatment is not receiving the attention it deserves. His

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statements have more reference to cancer of the cervix than cancer of the body but the same principle applies to both. When the disease has reached the adjacent structures it may be advisable to limit the treatment to the superficial area of ulceration. After long personal observation and experience he is convinced that no palliative treatment is so effective as the thermocautery, which has the advantage of thoroughly closing the lymphatic vessels. Whether its superiority over caustics is due to the influence of heat on the diseased cells beyond the area of cell destruction is a matter of opinion, but he is inclined to think it probable. He specially emphasizes the fact that it is rare for the patient to suffer pain after the use of the thermocautery if the mucocutaneous surfaces are not injured. This requires tact and experience. He has usually found it easiest to protect the surfaces from injury by the use of strips of asbestos paper of proper size and shape. He alludes to Dr. John Byrne's method of the use of the galvanocautery, which he calls the correct one, and which consists in the gradual eating out of the diseased tissue of the uterus nearly to its peritoneal covering by the use of a platinum wire loop for the cautery and curetting away the burned tissue. Skill with this method consists in not going far beyond the area of involvement and having the cautery just hot enough to burn the structures but not to disintegrate them too rapidly. If proper heat is not maintained troublesome hemorrhage may follow. He has seen patients with cancer, far advanced, of the cervix and body, showing signs of grave systemic infection, who lost their cachectic appearance after themocautery operation. The greatest gentleness should be employed in all manipulation of the parts after operation and a bivalve speculum should not be used as a rule, as it is likely to infringe on the burnt area. Daily vaginal douches with permamganate of potassium or compound solution of cresol are the best intiseptics. In hopeless cases this local treatment of galvanocautery is essential for the patient's comfort and the skilled hand of the attending physician is the most satisfactory in applying the dressing. The local use of cocain, frequently repeated, is sometimes useful in relieving pain, or rectal suppositories of cocain and hyoscyamus are advisable. Later, increasing doses of morphine may be used. He has not been so fortunate as Dr. Bryne in thus preventing the local recurrence of the disease, which may be due, he says, to his less skillful technic. There is no reason why in recurrent cases the thermocautery can not be repeatedly used with benefit. He gives the history of four patients, two of whom after periods of from four to eight years, according to accepted standards, were cured, and the other two were greatly benefited and their lives prolonged for years with very litle suffering—a result unobtainable, so far as he knows, by any other treatment. He regrets that he can not give in this paper more than passing mention of the utility of x-ray and radium treatment in uterine cancer. His experience with either of these has not been sufficiently extensive to enable him to speak authoritively as to their value, but, as far as his experience goes, he regards radium as far the most useful, since after its use granulating surfaces take on a more healthful activity than after the use of the x-ray and this he believes is in accordance with recent observations.

NEW MEMBERS.

Dr. J. Paul Gay, McAlester.
Dr. A. W. Harris, Muskogee.
Dr. H. T. Balentine, Muskogee.
Dr. J. G. Noble, Muskogee.

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MISCELLANEOUS

COUNCIL ON PHARMACY AND CHEMISTRY, NEW ARTICLES ACCEPTED FOR INCLUSION.

Articles accepted for N. N. R:
Orphol (Schering & Glatz.)
Orphol Tablets, do.
Arsen-Triferrin, (Knoll & Co.)
Arsen-Triferrin Tablets, do.
Arsen-Triferrol, do.
Lactophenin, (Merck & Co.)

AMERICAN MEDICAL ASSOCIATION, SPECIAL CONFERENCE ON MEDICAL EDUCATION AND MEDICAL LEGISLATION.

To the Officers and Members of State Medical Licensing Boards,
To the Officers of State Medical Associations,
To Members of the National Legislative Council,
To University Presidents, College Professors and others interested in Medical Legislation,

GREETING:

A special conference on Medical Education and Legislation will be held at the Congress Hotel (formerly the Auditorium Annex,) Chicago, Monday, Tuesday, and Wednesday, February 28, March 1 and 2, 1910, the session to begin at 10 o'clock Monday morning.

Monday, February 28th.

On Monday the Council on Medical Education will hold its Sixth Annual Conference. A report will be presented showing the present status of the medical colleges in the United States and another report giving practical tests in state license examinations. Other important topices bearing on medical education will be discussed.

Tuesday, March 1st.

On Tuesday there will be a joint Conference on Medical Education and Medical Legislation, at which the essentials of a model medical practice act will be considered.

Wednesday, March 2nd.

On Wednesday the Committee on Medical Legislation will hold its Annual Conference, discussing a National Bureau of Health, vital statistics, pure food and drugs, expert testimony, and other live topics.

You are cordially invited to attend this conference and to participate in the discussions.

Council on Medical Education
N. P. COLWELL, Secretary.
Committee on Medical Legislation
FREDRICK R. GREEN, Secretary.
Chicago, Ill., Dec. 1, 1909.

ADRENALIN IN A NEW PACKAGE.

In addition to the ounce vials in which it has hitherto been supplied, Adrenalin Chloride Solution is now being marketed in hermetically sealed glass containers of 1 cubic centimeter capacity. "Adrenalin Ampoule" is the name used to designate the new package, and the solution is of the strength of 1 to 10,000 (one part Adrenalin chloride to 10,000 parts physiologic salt solution.) In their announcement of the ampoule Parke, Davis & Co. have this to say:

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"Adrenalin Chloride Solution has become a necessity in medical and surgical practice. The most powerful of actringents and hemostatics, it lends itself to many practical uses and at little risk of injury in reasonably careful hands. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the "full strength;" and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. While the danger of deterioration from occasionally opening a vial containing a solution of Adrenalin Chloride is not great, still, in consideration of the fact that a dose is needed now and then for hypodermatic injection, it is believed that the small hermetically sealed package will be welcomed because of its greater convenience and security."

As will be apparent from the foregoing the Adrenalin Ampoule is intended for hypodermatic use. It should be of great value in such emergencies as shock, collapse, hemorrhage, asthma, etc., or where prompt heart-stimulation is desired.

THERAPEUTIC SERMONETTE.

By Dr. Geo. F. Butler.

At the onset of acute tonsilitis the bowels should be cleansed by calomel, podophyllin and bilein followed by saline laxative. Defervescent compound (No. 1 or 2 according to age,) every half hour until the temperature reaches 100 degrees F. or less. If much hoarseness and soreness of throat, potassium bichromate gr. 1-67 in in a teaspoonful of water should be given every two hours. As the acute symptoms subside these remedies should be replaced by calx iodata (Calcidin) gr. 1-3 given in a teaspoonful of hot water every hour or two as indicated. The throat should be sprayed three or four times a day with an antiseptic solution (Menthol Compound, Abbott, 1 tablet, glycerine 1-2 ounce, water 12 ounces.) The urine should be frequently examined, and if there is evidence of acidemia sodoxylin and salithia should be given in plenty of water until the condition is overcome. A light diet should be given and the child kept in a room moistened with steam or the air medicated with a vapor of cresoline or with antiseptic oils. By all means keep up free elimination through bowels, skin and kidneys.

BOOK REVIEWS

American Illustrated Medical Dictionary. The New (5th) Edition. Dorlands American Illustrated Medical Dictionary. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemstry, Nursing and kindred branches; with new and elaborate tables and many handsome illustrations. Fifth Revised Edition. By W. A. Newman Dorland, M. D., Large Octavo of 876 pages, with 2,000 new terms. Philadelphia and London. W. B. Saunders Company, 1909. Flexible leather, $4.50 net; indexed, $5.00 net.

This work will be found most useful to the Medical Student and as a work of easy access and one that covers the field well; it will be found to be of great value to the general practitioner as well.

Many of the new illustrations are in colors and the charts on bacteriology and those showing the appearance in the exanthmatous conditions, arterial and venous systems, pathologic conditions and anatomic structures are very beautiful and most attractively gotten up.

The work is well worth the price and will be very popular with profession.

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A Text Book on Obstetrics, Including Related Gynecologic Operations. The New (6th.) Edition, Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. 992 pages, with 847 illustrations, 43 being in colors, 1909. Cloth, $5.00 net; Half Morocco, $6.50 net.

W. B. Saunders Company, Philadelphia and London.

This work is too well known to the profession to require an extended description or discussion. It takes rank as one of the leading text-books on this subject and deserves the careful consideration of the general practicioner as well as the student of medicine. It will appeal to the general practicioner on account of being most thorough in the consideration of complications arising from the puerperal state and much space being devoted to the operative work following such complications. Vaginal, uterine, abdominal and all classes of work confronting the Gynecologist and Obstetrician are given attention.

Much space is devoted to the preparation and after care of the operative case. The technic and details are carefully entered into and the advice as to operations of selection is good.

The work will be found of use to every general practitioner who will take even a short time to give it the perusal and reflection it richly deserves.

BOOKS RECEIVED.

The Physician's Pocket Account Book. By J. J. Taylor, M. D., bound in full leather, 24 pages of practical instructions for physicians, 216 pages of accounts. Price $1.00 per copy; published by The Medical Council 4105 Walnut Street, Philadelphia, Pa.

PUBLIC HEALTH

Rules relating to tuberculosis will be changed, and the law will require compulsory reporting of this disease. The forbidding of the occupancy of a house having been infected either by removal or death of a tubercular patient until the same has been fumigated or disinfected; and the free examination of sputum of a tubercular patient by the State Board of Health will be adopted as rule governing the Oklahoma State Board of Health. The rules relating to vital statistics will be amended so as to conform and meet the requirements recommended in the Model Bill of vital statistics prepared by the Committee of the American Medical Association and the Census Bureau at Washington.

On the first day of January, 1909, the State Commissioner of Health will promulgate some new rules as follows: pellagra, hook worm, anterior poliomyelitis of infantile paralysis will be included in the list of diseases that it is necessary to report to the State Commissioner of Health.

NEW AND NON-OFFICIAL REMEDIES.

Published by the Council on Pharmacy and Chemistry of the American Medical Association for free distribution to members of the American Medical Association, complete to January, 1909.

Second supplement to New and Non-Official Remedies issued by above named Council and complete to and including September 11, 1909.

Published by Press of the American Medical Association, Chicago, 1909.

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COUNTY SOCIETIES

TO COUNTY SECRETARIES.

As your annual elections are well under way and in many instances have already been held I think it proper to call your attention to some of the conditions, a remedy of which may be found in your co-operating with this office by promptly sending in your reports for the coming year. This letter is prompted by the fact that in many instances no communication whatever has been received from the county secretaries since my incumbency in office in May, 1909, and to all intents and purposes the county society to which they are accredited as secretary does not exist except on paper and in the imigination.

The function of a county secretary has previously been outlined in these columns and it is only necessary to say that promptness in sending in reports of your county society transactions, movements of your local profession and other matters of interest generally are a part of your duties which should be attended to. This caution is not necessary in the case of many of the secretaries as some of them have been more than prompt and efficient and very kind in giving the state secretary all the aid in their power in the work, which at best is very hard and difficult of execution.

It occurs to the secretary's office that if a county secretary cannot fulfill the obligations of his office he should resign and make room for some other person who has more time or taste for the work. NOW if you propose to retain your office without having war with the state secretary please send me a list of your officers elected for 1910, Presidents, Vice-Presidents, Secretaries and Delegates, and send all the transactions of your society as rapidly as completed.

Respectfully,

C. A. THOMPSON,

Secretary.

BRYAN COUNTY.

Bryan county held its annual election for officers for 1910 with the following results:

President, Dr. J. L. Shuler, Durant.

Vice Presidnt, Dr. J. F. Park, Durant.

Secretary-Treasurer, Dr. D. Armstrong, Mead.

Censors, Dr. H. E. Pappolee, Caddo, one year; Dr. W. L. Kendall, Durant, two years; Dr. W. F. Clifton, Durant, three years.

MUSKOGEE COUNTY.

The Annual election of officers of this county occured December 13, and resulted as follows:

President—Dr. H. C. Rogers.

Vice-President—Dr. S. W. Aiken.

Secretary-Treasurer—Dr. H. T. Ballantine.

Delegates, Drs. P. P. Nesbit and I. B. Oldham.

Delegates to Oklahoma City Tubercular Convention, Drs. J. O. Callahan and G. A. McBride.

A spirited discussion arose on the question of the county society employing additional legal help to aid in the case of Muskogee County's prosecution of Chiropractors. Some of the members present taking the position that the county should assume all expense and initiative in the prosecution

as it does in other criminal cases, while others held to the view that the county society should not only aid in a moral way but should also appropriate money for the prosecution as is done in many important cases where it is necessary to have legal assistance to aid the regularly constituted authorities. The matter was not disposed of and will come up at a special meeting later.

An elaborate banquet was indulged in after the meeting at the Turner Hotel, about sixty people being present.

HUGHES COUNTY.

Program for the meeting to be held December 30, 1909, at Holdenville.

What to do in Appendicitis, Dr. G. W. Patterson.

Some Observations in Treatment of Pneumonia, Dr. Vanderpool.

Anesthesia, Dr. H. A. Howell.

Clinic, Dr. A. L. Davenport.

Quiz, "Femoral Artery" Its Relations, its Branches, and their Distribution.

Patent Medicine, Dr. T. J. Cagle.

How to prevent Tuberculosis, Dr. Troy, McAlester.

The last paper will be illustrated by stereopticon pictures by Dr. J. C. Mahr, State Commissioner of Health who will also show some pictures of Pellagra.

The question of ridding the county of illegal practitioners will also come up for consideration and the annual election of officers for 1910 will be held.

PITTSBURG COUNTY.

The Annual election of officers for 1910 resulted in the following officers being chosen:

President—R. I. Bond, Hartshorne.

Vice-President—R. K. Pemberton, Krebs.

Secretary-Treasurer—H. E. Williams, McAlester.

Delegates to Annual Meeting, LeRoy Long, McAlester, R. L. Mitchell, Dow.

PERSONAL MENTION.

MARRIED.

At Chickasha, Oklahoma, December 3rd, 1909, Miss Zenobia Cuthbertson to Dr. Fred R. Disney of Pocasset, Oklahoma, at the residence of Dr. Glenn.

Miss Cuthbertson was formerly from Liberty, Mo., and Dr. Disney is comparatively a new man in Oklahoma, having come here from the Augustana Hospital, Chicago.

The best wishes of the medical profession of Oklahoma are extended to them.

Dr. C. B. Bradford of Oklahoma City was recently elected Chairman of the Board of Freeholders of that city. They are to draft a new charter for Oklahoma City and it is to be hoped that its Public Health Department, which is now inferior to none in the state, will be well looked after.

Dr. J. M. Byrum, President of the Pottawatomie County Medical Association, has just completed a post-graduate course at Chicago, and a visit to the Mayos.

Dr. G. W. Colvert, of Shawnee, will take post-graduate work in St. Louis this month.

Dr. O. E. Templin has changd his location, having movd from Darrough to Alva, Oklahoma.

Dr. W. S. Works of Matoy, Bryan County, Oklahoma, has reported four cases of infantile paralysis to the State Board of Health.

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OFFICERS OF THE OKLAHOMA STATE MEDICAL ASSOCIATION.

President, Dr. Walter C. Bradford, Shawnee.
First Vice President, Dr. C. L. Reeder, Tulsa.
Second Vice President, Dr. D. A. Myers, Lawton.
Third Vice President, Dr. J. W. Duke, Guthrie.
Secretary, Dr. Claude Thompson, Muskogee.

LIST OF COUNCILLORS WITH THEIR RESPECTIVE COUNTIES

First District, Dr. J. A. Walker, Shawnee. Canadian, Cleveland, Grady, Lincoln, Oklahoma, Pottawatomie and Seminole.

Second District, Dr. John W. Duke, Guthrie. Grant, Kay, Osage, Noble, Pawnee, Kingfisher, Logan and Payne.

Third District, Dr. Charles R. [illegible], Anadarko. Roger Mills, Custer, Dewey, Blaine, Beckham, Washita and Caddo.

Fourth District, Dr. A. B. Fair, Frederick. Greer, Kiowa, Jackson, Comanche, Tillman, Stephens and Jefferson.

Fifth District, ..., ... Cimarron, Texas, Beaver, Harper, Woodward, Alfalfa, Ellis, Woods, Major and Garfield.

Sixth District, Dr. F. R. Sutton, Bartlesville. Washington, Nowata, Ottawa, Rogers, Mayes, Delaware, Tulsa and Craig.

Seventh District, Dr. W. G. Blake, Tahlequah. Muskogee, Creek, Wagoner, Cherokee, Adair, Okmulgee, Okfuskee and McIntosh.

Eighth District, Dr. I. W. Robertson, Dustin. Sequoyah, LeFlore, Haskell, Hughes, Pittsburg and Latimer.

Ninth District, Dr. H. P. Wilson, Wynnewood. McClain, Garvin, Carter, Love, Murray, Pontotoc, Johnston and Marshall.

Tenth District, Dr. J. S. Fulton, Atoka. Coal, Atoka, Bryan, Pushmataha, Choctaw and McCurtain.

Delegates to American Medical Association, Dr. C. S. Bobo, Norman; Dr. L. A. Hahn, Guthrie.

Alternates, Dr. C. L. Reeder, Tulsa; Dr. J. A. Walker, Shawnee.

A. K. WEST, Internist S. R. CUNNINGHAM, Surgeon

DRS. WEST & CUNNINGHAM

Consultants in
Internal Medicine and Surgery

Main and Harvey Phone 158 Oklahoma City, Okla.

DR. H. H. WYNNE

Oklahoma City, Okla.

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DR. RALPH V. SMITH

Surgeon

Phone No. 237 Guthrie, Oklahoma
Office Phone 8 Residence Phone 3

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Cor. First and Robinson Sts. Oklahoma City, Okla.

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Oklahoma City, Oklahoma

For the
Preventative Treatment of Hydrophobia

S. L. MORGAN, M. D., Director
1025 West Reno Avenue L. D. 'Phone 3311

DR. JOHN W. DUKE

Nervous and Mental Diseases

Sanitarium 310 North Broad Guthrie, Okla.

TULANE
UNIVERSITY
OF
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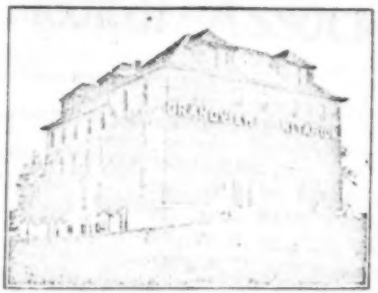

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